European Commission

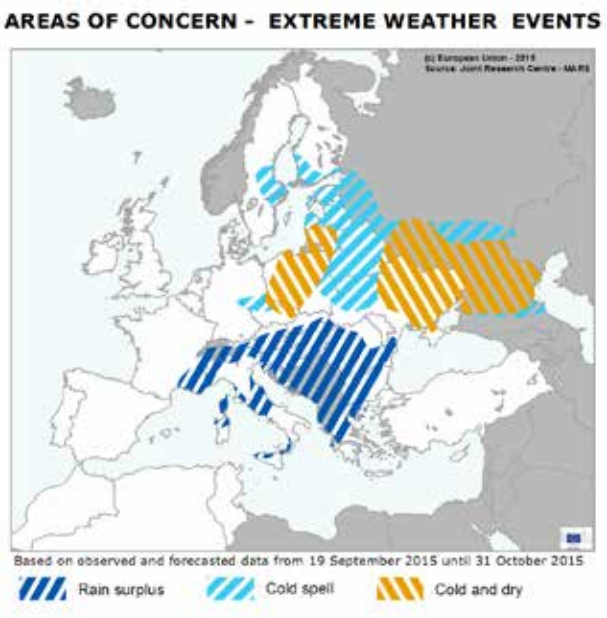
Period covered: 1 September–20 October
Issued: 26 October 2015

Crop monitoring in Europe

MARS Bulletin Vol. 23 No 10 (2015)

Difficult start for winter crops in eastern and northern Europe

Yield forecasts for summer crops at EU-28 level remain low and are comparable to last month's forecast. September was warmer than usual in northern, eastern and south-eastern Europe and colder than usual in western Europe. October has generally been colder than usual so far, especially during the second dekad, when negative minimum temperatures occurred in many areas of central and eastern Europe. Wetter-than-usual conditions were recorded in south-eastern Europe, south-eastern France, central and southern Italy, northern Germany and several parts of northern Europe. Large areas in south-eastern Europe faced a period of abundant rains slowing down the harvesting activities of maize and sunflower and hampering the sowing of winter crops. Dry conditions have persisted in Poland, Lithuania, western Ukraine and southern Russia. In these regions, the winter crops sown in September germinated under unfavourable conditions which further worsened due to the low temperatures that occurred in October. The sowing of winter cereals has progressed without major problems in the EU's largest producing states, France, Germany and the UK.



Crop	Yield t/ha				
	2014	MARS 2015 forecasts	Avg 5yrs	% 15/14	% 15/5yrs
TOTAL CEREALS	5.72	**5.19**	5.21	- 9.2	- 0.4
Total Wheat	5.90	**5.62**	5.44	- 4.8	+ 3.3
soft wheat	6.14	**5.86**	5.67	- 4.6	+ 3.4
durum wheat	3.35	**3.20**	3.26	- 4.4	- 1.7
Total Barley	4.90	**4.65**	4.49	- 5.1	+ 3.5
spring barley	4.16	**3.93**	3.91	- 5.5	+ 0.4
winter barley	5.92	**5.61**	5.36	- 5.2	+ 4.7
Grain maize	8.16	**6.47**	7.04	- 20.7	- 8.0
Rye	4.23	**3.72**	3.58	- 12.1	+ 3.8
Triticale	4.53	**4.08**	4.15	- 9.9	- 1.8
Other cereals	3.14	**2.88**	3.63	- 8.2	- 20.6
Rape and turnip rape	3.62	**3.25**	3.13	- 10.3	+ 3.7
Potato	34.71	**31.60**	31.39	- 9.0	+ 0.7
Sugar beet	76.97	**70.48**	70.44	- 8.4	+ 0.1
Sunflower	2.15	**1.86**	1.91	- 13.6	- 2.8

Issued: 23 October 2015

1 Agro-meteorological overview

2 Sowing conditions new campaign 2015/16

3 Country analysis including rice

4 Crop yield

5 Atlas

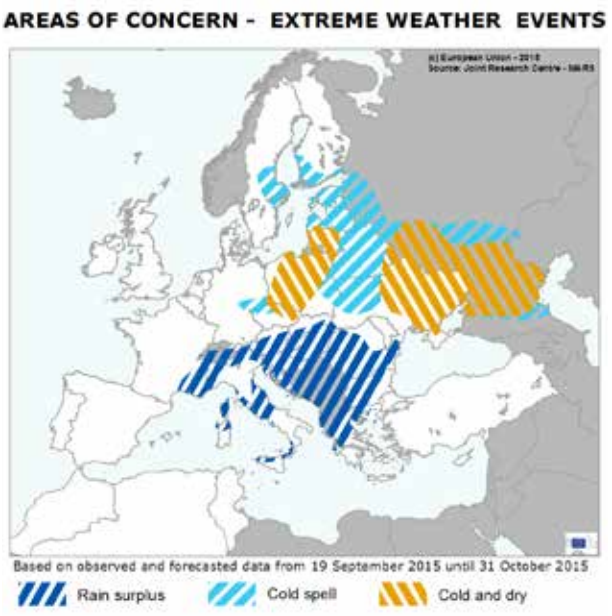
Joint Research Centre

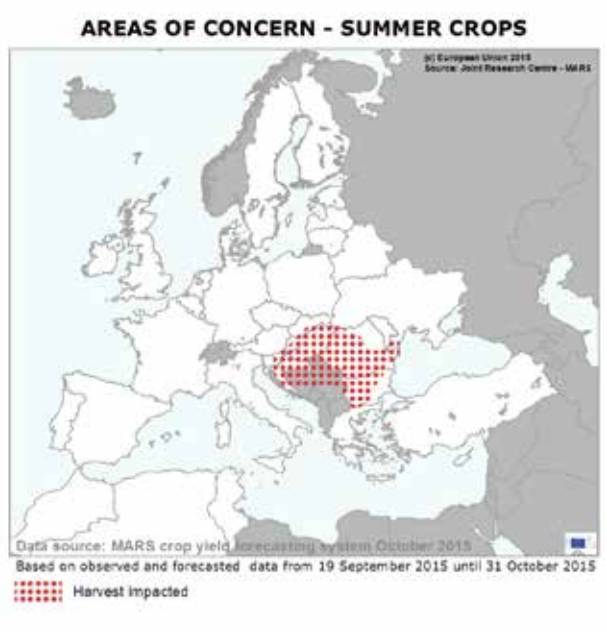
1. Agro-meteorological overview

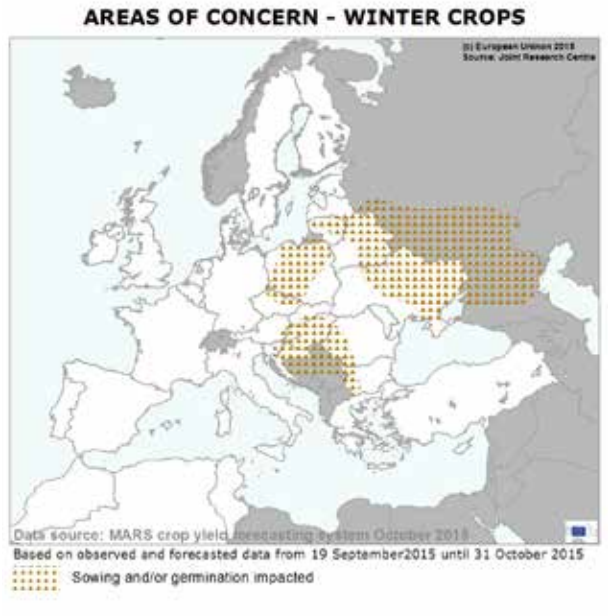
1.1 Areas of concern

Unfavourable conditions in eastern and northern Europe for harvest and sowing activities

The maps above show the extreme weather events and their impacts during the period from 19 September to 31 October. For the period from 21 to 31 October, forecast weather was considered. The extreme weather map shows that large areas of **Italy** and **eastern Europe** experienced abundant rains. In Italy, maize was already harvested while the sowing of winter crops had not yet started, so these rains did not hamper any crop or field activities. In eastern Europe, maize and sunflowers were still in the field, and the excessive rainfall slowed their harvesting and hampered the sowing of winter crops. In **Poland**, dry conditions have persisted since summer. During the period of analysis, the main western agricultural regions received only a little precipitation around mid-October, and none is foreseen for the forthcoming days. The winter crops sown in September therefore germinated under unfavourable conditions which further worsened due to the low temperatures that occurred in October. Similar problems occurred in the **Baltic countries**, especially in **Lithuania**. In **Ukraine** and **Russia**, the minimum temperatures dropped below zero in October, which is quite early compared to the normal thermal regime. The most critical regions are in western Ukraine and southern Russia, where the prolonged lack of precipitation is coupled with low temperatures and, consequently, seeds germinated under very unfavourable conditions.





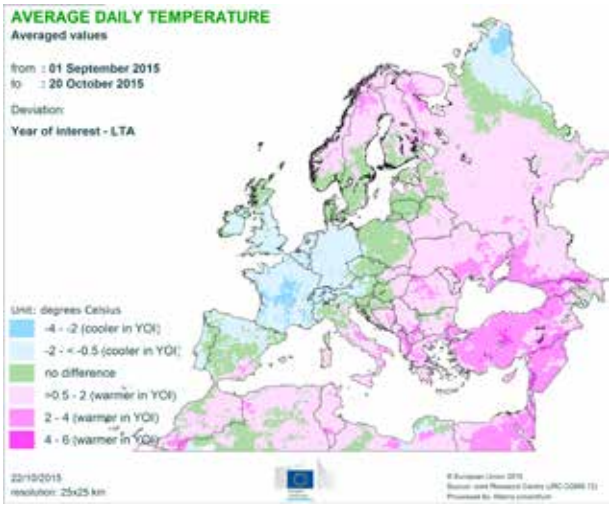


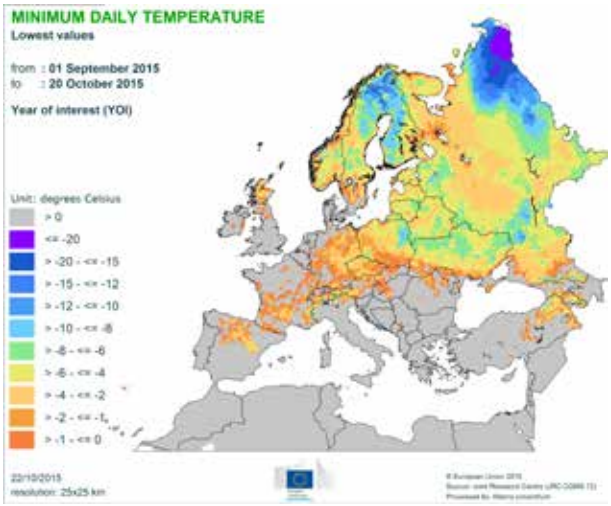
1.2 Meteorological review (1 September-20 October)

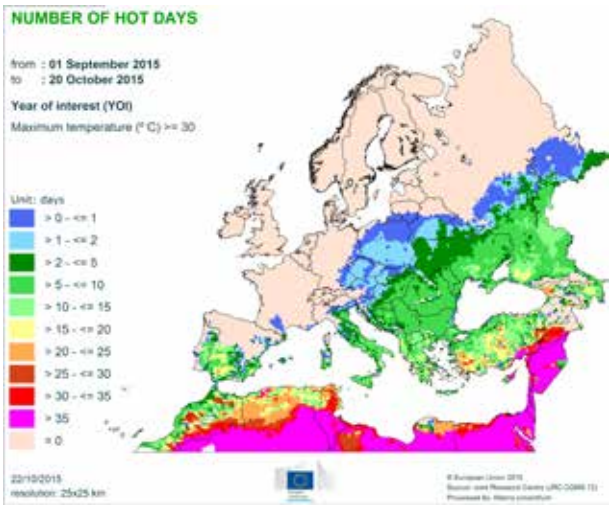
The analysis period was characterised by generally warmer-than-usual weather conditions in northern, eastern and south-eastern parts of Europe and Turkey, whereas colder-than-usual weather prevailed in western Europe. Wetter-than-usual conditions were recorded in south-eastern Europe, south-eastern France, central and southern Italy, northern Germany and several parts of northern Europe. Heavy rainfall episodes, leading to flooding, occurred locally in south-eastern France, and the western and northern Balkans. Wet conditions in south-eastern Europe are delaying the sowing of winter crops.

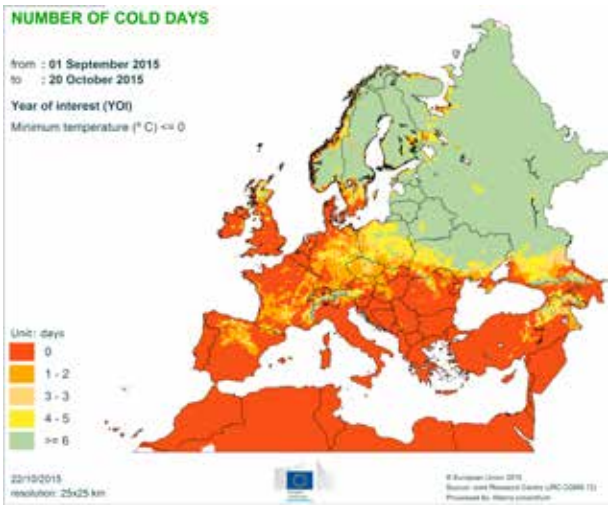
Observed temperatures

During the first half of September, colder-than-usual conditions were observed in western and central Europe and the British Isles. Warmer-than-usual conditions were recorded in eastern and south-eastern Europe, with positive anomalies ranging from 2 to 4 °C above the long-term average. Daily maximum temperatures often exceeded 36 °C in a large area mainly covering the southern Balkans, south-eastern Ukraine, the eastern Black Sea region and Turkey. Warmer-than-usual conditions continued during the second half of September in eastern, south-eastern and northern Europe. Positive temperature anomalies ranged up to 8 °C, with the largest anomalies occurring in Russia. Slightly colder-than-usual weather was recorded in western Europe. The first dekad of October was characterised by colder-than-usual weather in eastern and northern Europe and France, with temperature anomalies as much as 4 °C below the long-term average. Eastern Poland experienced minimum temperatures below - 8 °C. Slightly warmer-than-usual weather conditions were recorded in Italy, southern Spain and Turkey. Weather during the second dekad of October was affected by the inflow of cold air in central and western Europe, leading to significant negative temperature anomalies (generally between 4 °C and 6 °C below the long-term average). Negative daily minimum temperatures occurred in many areas of south-western France, central Europe and eastern Europe. Northern Europe, the southern part of the Iberian Peninsula and Turkey were warmer than usual during this period.



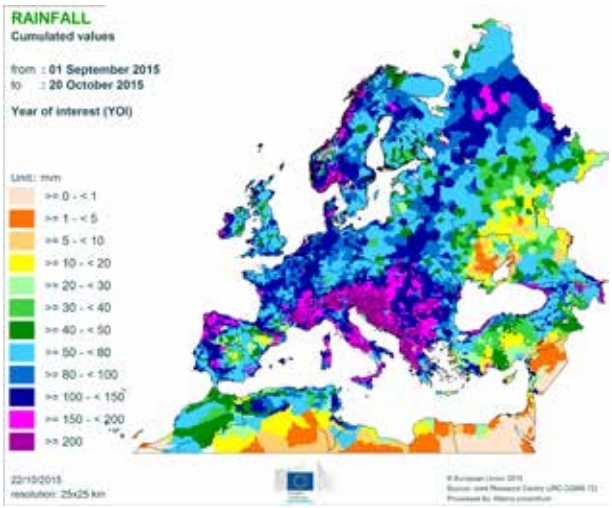


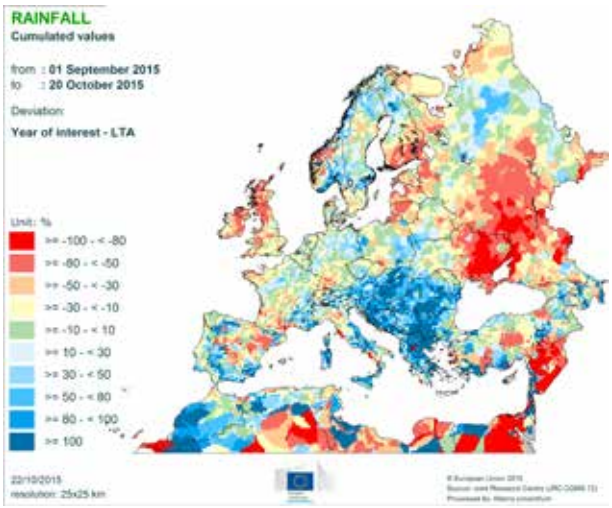


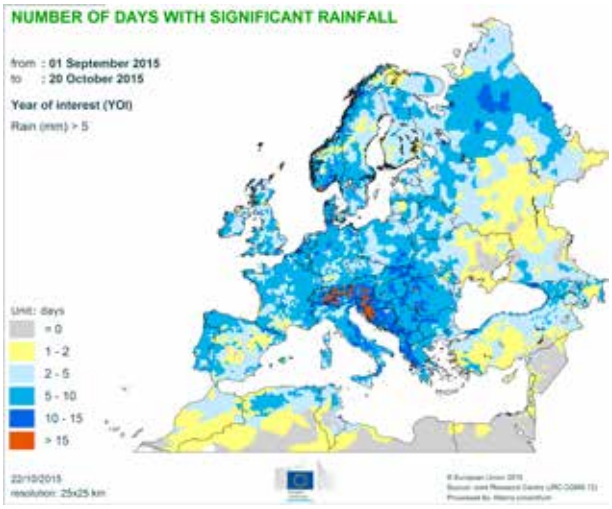


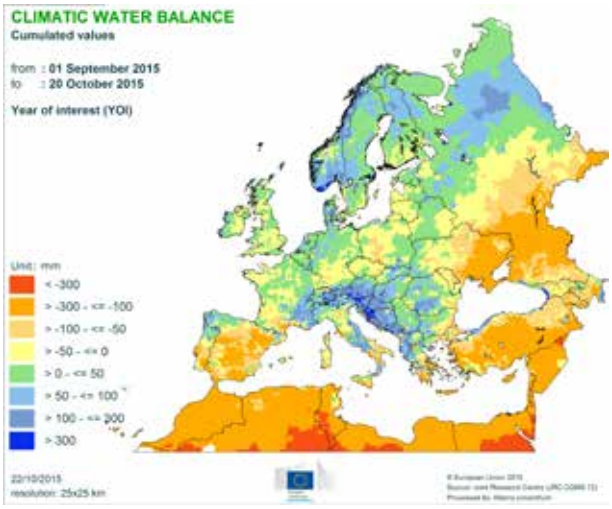
Observed precipitation

During the first half of September, dry conditions prevailed in a large area covering Turkey, southern Greece, south-western Ukraine, southern Portugal and western Spain. Precipitation exceeding 90 mm (locally greater than 110 mm) was observed in the Alps, south-western France and southern Norway. During the second half of September, rainfall exceeded the long-term average in the south-eastern part of Europe, western Turkey, eastern France, eastern Poland, Belarus and northern Europe. In most of these areas, rainfall of 50 mm to over 100 mm was recorded during this period. Dry conditions were recorded in eastern Ukraine, the southern part of European Russia, eastern Turkey, the Czech Republic, western Poland, eastern Germany and many areas of the Iberian Peninsula. During the first dekad of October, abundant rainfall was recorded in the western Balkans, south-eastern France, the Apennines and the north-western part of the Iberian Peninsula, with cumulated rainfall generally exceeding 80 mm. Very heavy rainfall episodes (over 100 mm per day) were recorded locally in south-eastern France. Heavy rainfall episodes continued during the second dekad of October on the eastern Adriatic coast and in south-eastern Alpine areas. By contrast, the first and second dekads of October were characterised by dry conditions over a wide belt, extending from southern Scandinavia to the northern Black Sea region.









2. Sowing conditions new campaign 2015/16

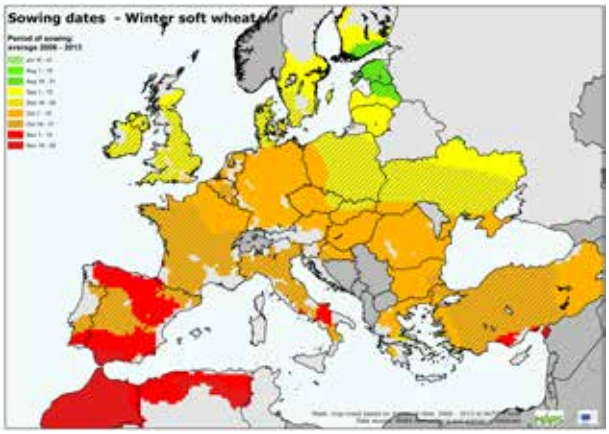
Winter soft wheat, winter barley, rye

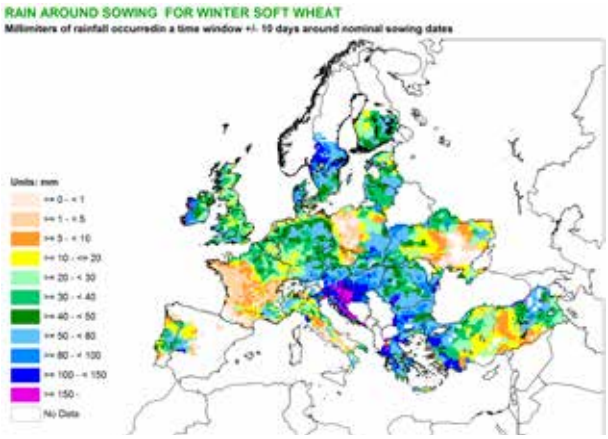
Sowing and emergence impacted in eastern Europe

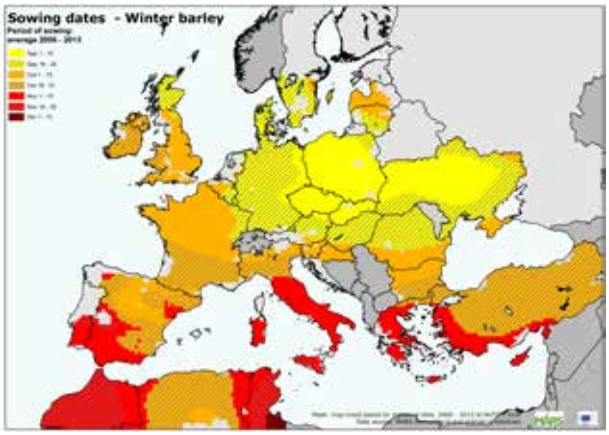
In the UK, the conditions for the sowing and emergence of winter cereals have generally been favourable and the sowing campaign has practically finished. In France, the sowing of winter cereals is making good progress under favourable weather conditions. In Germany and the Benelux, the sowing of winter cereals has also progressed well, despite delays due to frequent rain events.

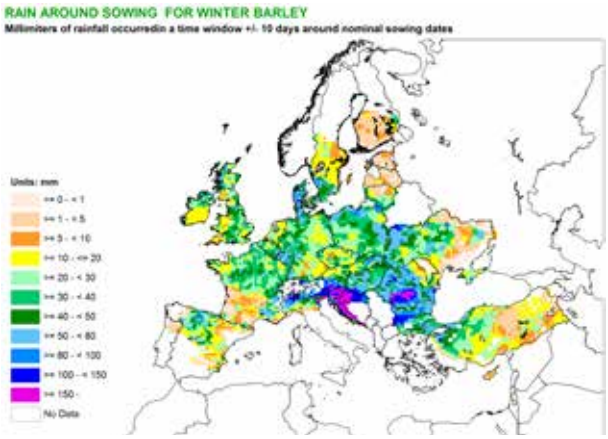
Large areas in eastern Europe experienced abundant rain during the first and second dekad of October, hampering the sowing of winter cereals. Hungary and significant parts of Austria, Slovenia, Croatia, Slovakia, the Czech Republic, Bulgaria and Romania were most affected.

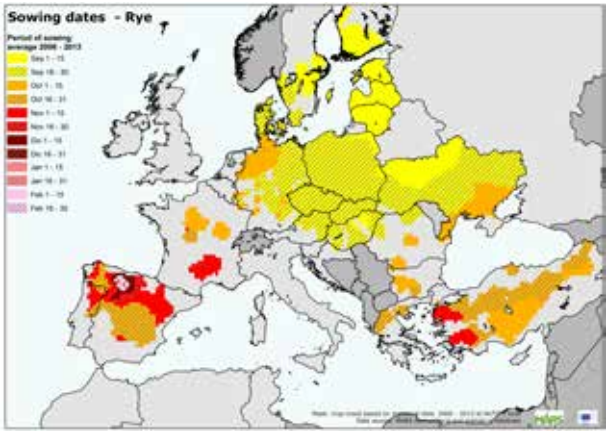
In Poland, relatively dry conditions persisted until September, when some rainfall provided sufficient soil moisture for seedbed preparation and sowing. Soil moisture reserves were still limited, however, and quickly depleted when dry conditions resumed. The winter crops sown in September therefore germinated under unfavourable conditions which further worsened due to the low temperatures that occurred in October. Similar problems occurred in the Baltic countries, especially in Lithuania. In Ukraine and Russia, the minimum temperatures dropped below zero in October, which is quite early compared to the normal thermal regime. The most critical regions are in western Ukraine and southern Russia, where the prolonged lack of precipitation is coupled with low temperatures and, consequently, seeds germinated under very unfavourable conditions.

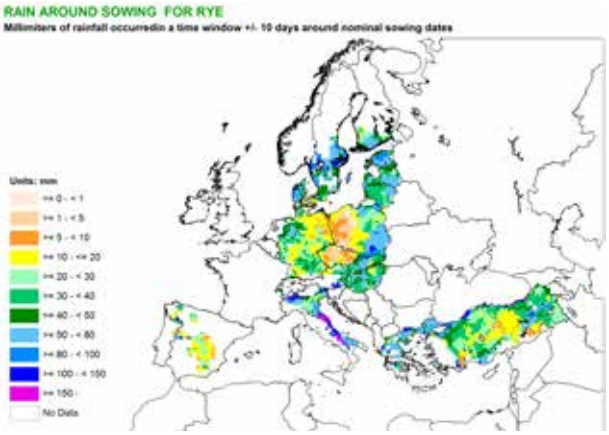








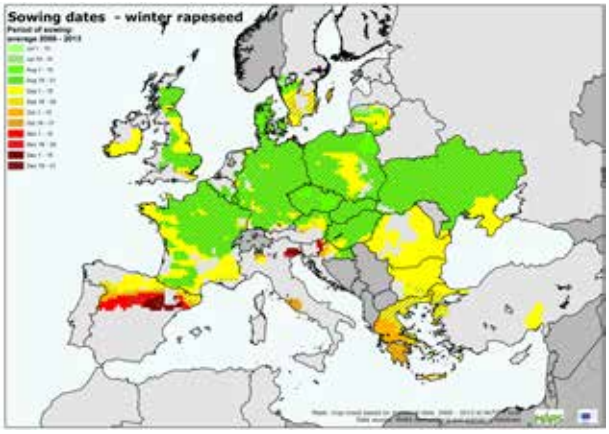


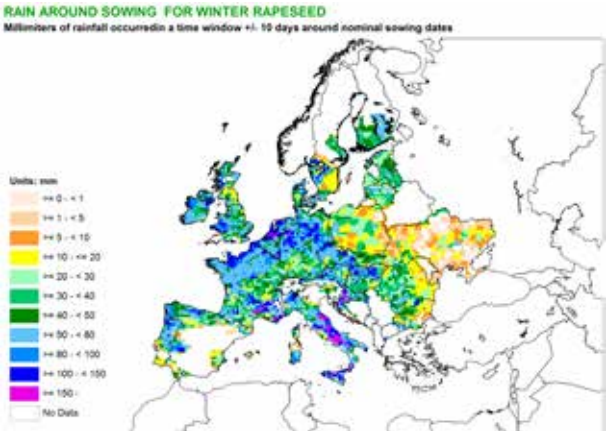


Winter rapeseed

Concerns in Poland. Fair conditions in other major producing countries

The typical window for rapeseed sowing in the EU's main producing states (Germany, France, Poland and UK) is mid-August to mid-September. Weather conditions in France and the UK offered ample sowing opportunities during this period, but above average rainfall in northern Germany resulted in some delays, yet without serious concern. Predominantly mild temperatures and adequate moisture supply during the following weeks favoured emergence and crop establishment in these countries and most other significant rapeseed-producing countries of the EU. In Poland, however, sowing was delayed due to the very dry conditions. Farmers eventually were able to sow thanks to some rainfall in September, which, however, was insufficient to replenish soil water reserves, leading to uneven stands. In the Balkan region, waterlogging following the heavy rains in October locally impacted crops after emergence.





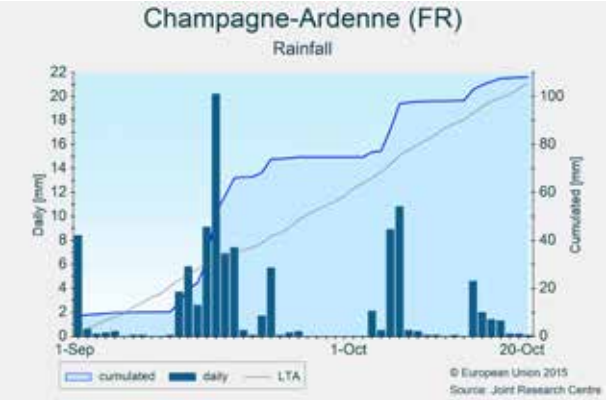
3. Country analysis

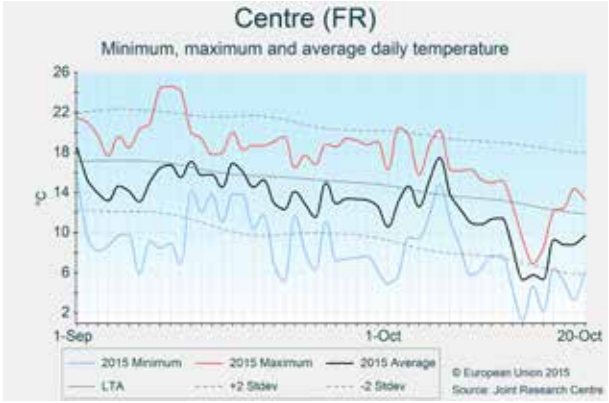
3.1 European Union

France

Negative outlook for summer crops

Temperatures remained from 1 °C to 1.5 °C below the long-term average since the beginning of September, and minimum temperatures during the second dekad of October were mostly close to 0 °C. Rainfall was around average, except in the south-east (*Rhône-Alpes* and *PACA*) where thunderstorms brought 70 mm more rain than the average. The forecast for grain maize yield remains below the 5-year average due to the hot and dry conditions observed during the summer. Yields of potatoes and sugar beets are also forecast to be lower than those of last year, but closer to the 5-year average. The harvesting of these crops is still ongoing. The sowing of winter cereals is progressing normally. To date, conditions have been beneficial, with average rainfall and temperatures remaining mostly positive.

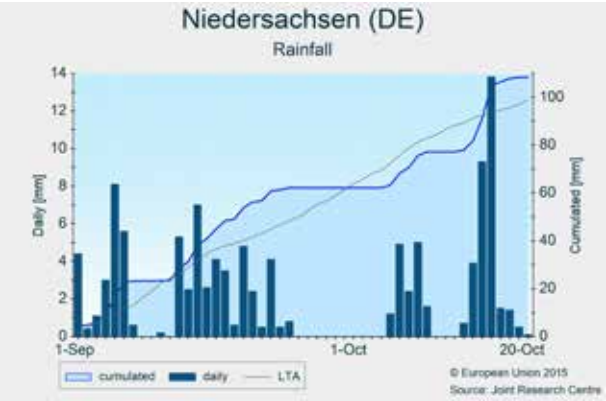


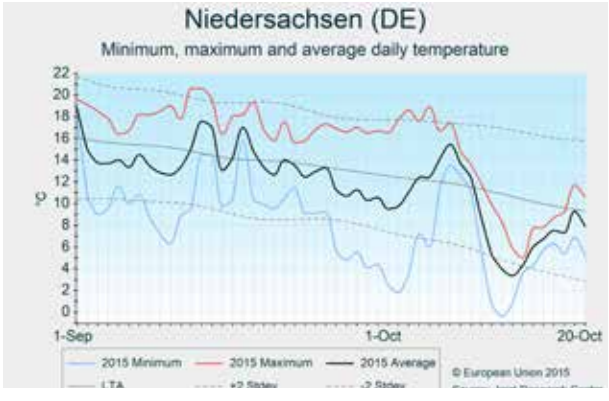


Germany

Chilly start of autumn

The period of review was characterised by a predominance of slightly below-average temperatures until the first dekad of October, and a more pronounced temperature drop in the second dekad of October. Minimum temperatures remained above zero, with the exception of 1 or 2 days around 12 October, when they reached - 1 to - 2 °C. Precipitation was below average in the southern parts of the country and near or somewhat above average in the north. The period from about 23 September to 6 October provided a good window for field operations, but the first two dekads of September and the second dekad of October offered limited opportunities for sowing and/or harvesting due to a high frequency of rain events; even in the south. The yield forecasts have remained unchanged.

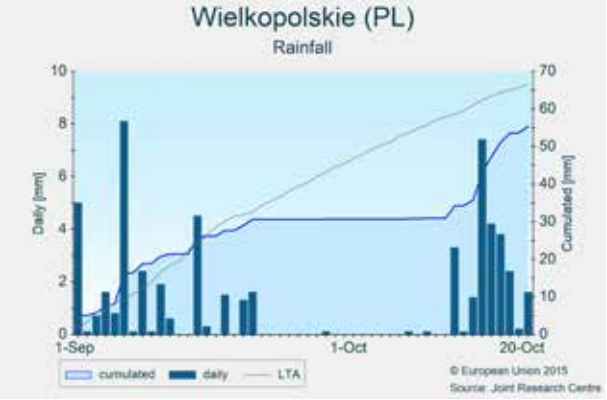


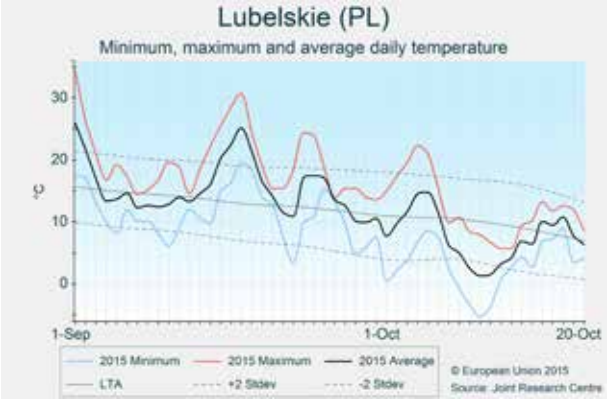


Poland

Concerns for winter crops sowings

While this summer was characterised by dry conditions that largely impacted summer crops, cumulated rainfall since the beginning of September is still below the long-term average. Only the south-east had slightly above-average rainfall. Temperatures oscillated around the average in September but dropped in October. Minimum temperatures remained negative for 4 days in most regions, and temperatures as low as - 5 °C were recorded on 10 October. Dry conditions followed by low temperatures are hampering the sowing and germination of winter crops. These conditions are expected to have a considerable impact on the area of winter crops to be harvested in 2016. Spring and summer crops were harvested early. The negative outlook for these crops is maintained as a result of the hot and dry conditions observed this summer.

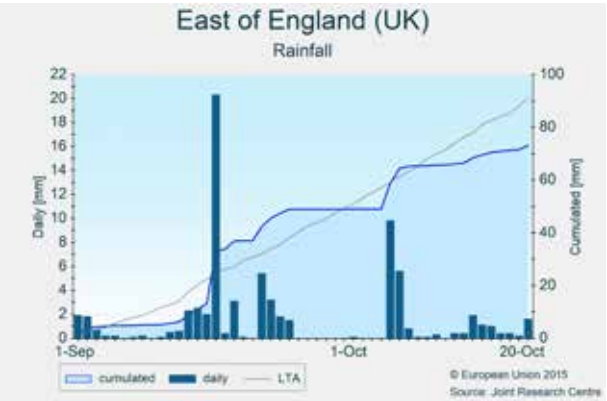


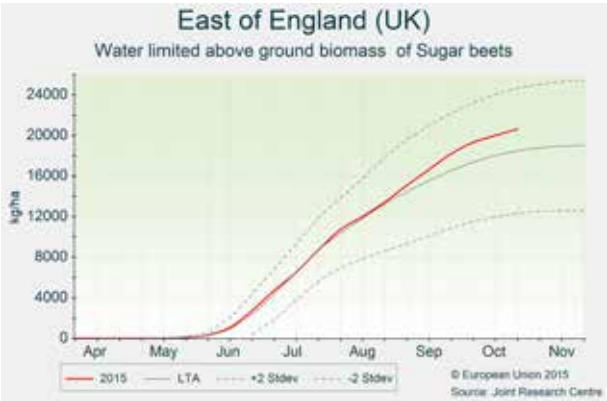


The United Kingdom and Ireland

Good end-of-season conditions

The period of review was characterised by a predominance of below-average temperatures in the main cropland areas, with the most pronounced temperature deficits (up to 2 °C) in southern UK and eastern Ireland. Rainfall was below average, with most events occurring between 11 and 25 September. Solar radiation was near or above average. These conditions were favourable for the harvesting of any remaining cereal crops, as well as sugar beets and potatoes, along with other field activities. The sowing of winter cereals has practically been completed in the UK and is well underway in Ireland. The yield forecast for sugar beets and potatoes remains practically unaltered compared to the previous bulletin: above the 5-year average.

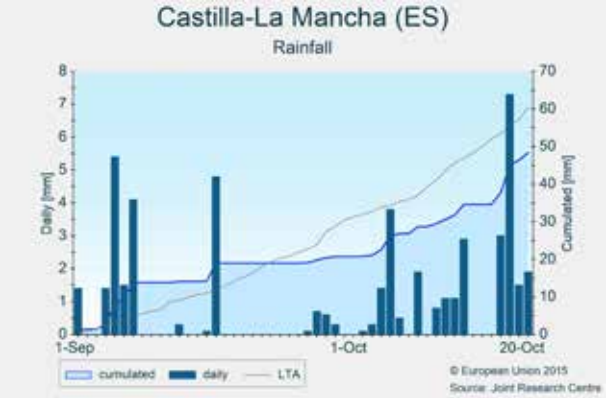


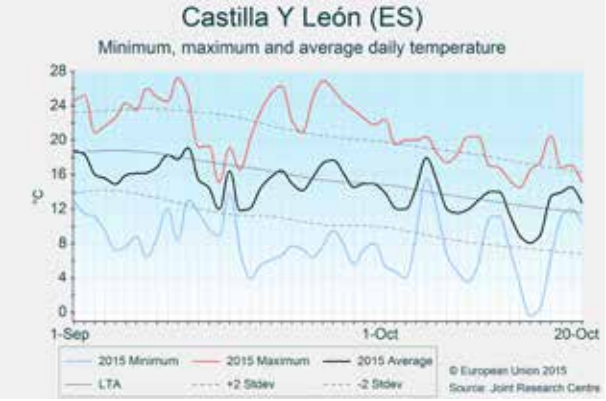


Spain and Portugal

Near-average conditions

Since the beginning of September, temperatures have been slightly below the average in the north of the peninsula and Portugal, while temperatures in other regions were close to the average. In the west of Andalucía and Murcia, temperatures have remained greatly above the average since the second dekad of September. Rainfall events were very heterogeneous. Slightly negative anomalies of cumulated rainfall were observed in the centre of the peninsula, while coastal zones had mostly above-average rainfall. The second dekad of October was characterised by a cold spell, and minimum temperatures reached - 4 °C in the arable land areas in the northwest.

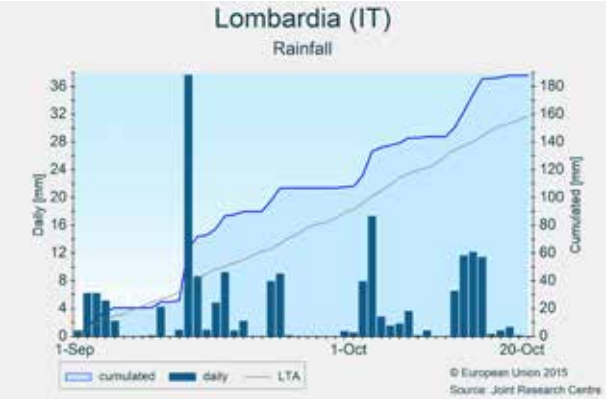




Italy

Maize harvest completed after an average season

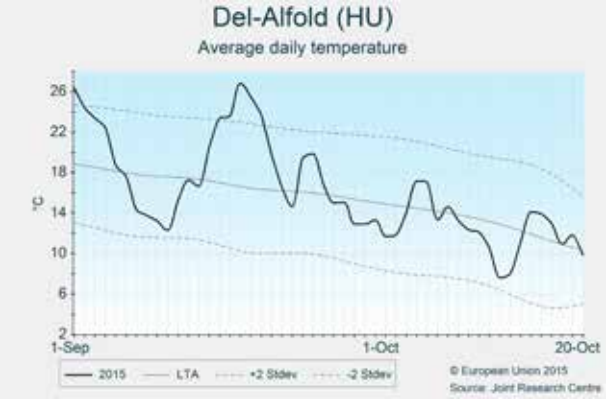
Thermal conditions during the period of review were close to average in Italy. In particular, temperatures were slightly colder than usual in the northwest of the country and warmer than usual in south-eastern regions. Cumulated precipitation is close to average in the north, while greater-than-average rainfall levels were registered in southern and central Italy, particularly in the Campania, Abruzzo, Molise and Marche regions, where cumulated rainfall exceeded the long-term average by about 100 mm during the review period. Severe thunderstorms that caused flooding and waterlogging were recorded during October in Campania and Abruzzo. The maize harvest was practically completed by the end of September despite some precipitation in mid-September. The yield forecast for maize is well below last year's record level, but close to the 5-year average.

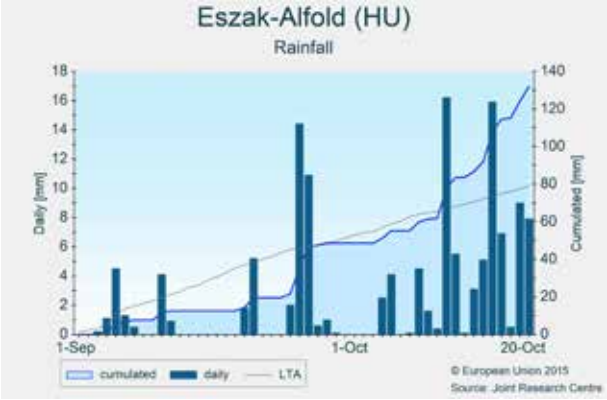


Hungary

Rain delays the summer crop harvest and the sowing of winter cereals

With the exception of some very warm days at the beginning and in the middle of September, Hungary was characterised by near-average thermal conditions. Late August and the first two dekads of September were drier than usual, allowing for the good progress of the harvests and the timely sowing of winter rapeseed. From the last dekad of September onwards, precipitation became frequent and abundant, providing favourable conditions for the emergence and early growth of rapeseed. On the flip-side, however, these rainy conditions delayed or locally suspended the harvesting of grain maize and sunflowers. The wet topsoil conditions also hampered the sowing of winter wheat and winter barley, leading to considerable delays in the progress of planting, with the possibility of a decrease in the sowing area of winter cereals compared to last year.

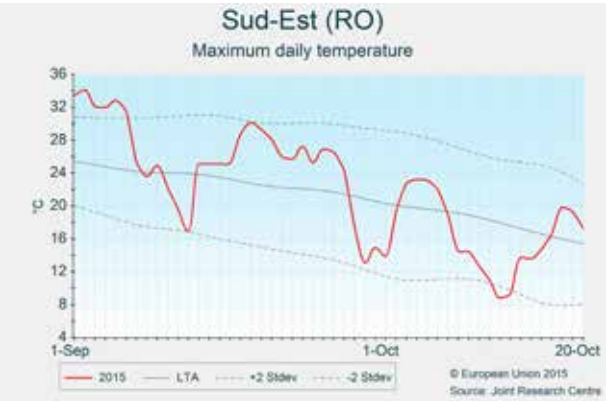


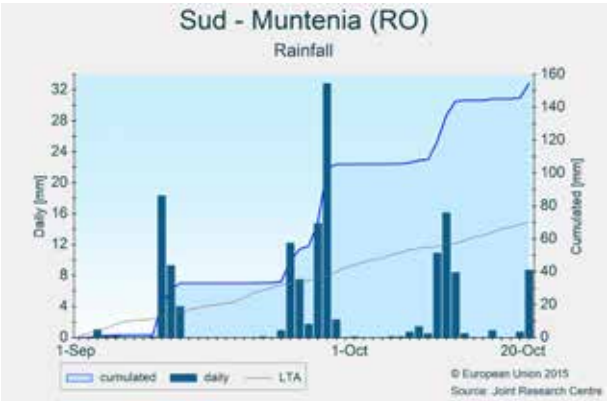


Romania

Rain finally arrives, but with no benefit to summer crops

September was 2-3 °C warmer than usual, whereas temperatures during October have so far been mostly near or slightly below average. Precipitation has been frequent and plentiful since early September in western Romania and since the last dekad of September in the eastern half of the country. These conditions were generally favourable for the sowing and emergence of winter rapeseed crops. Rainfall caused no serious problems to the harvest of potatoes and sugar beets, considering the accelerated development of these crops. However, the excessive rains of late September and October did significantly hamper the harvesting of grain maize and sunflowers, and delayed the sowing of winter cereals. The yield forecast for summer crops remains low due to the recurrent heat waves and the scarcity of precipitation during summer.

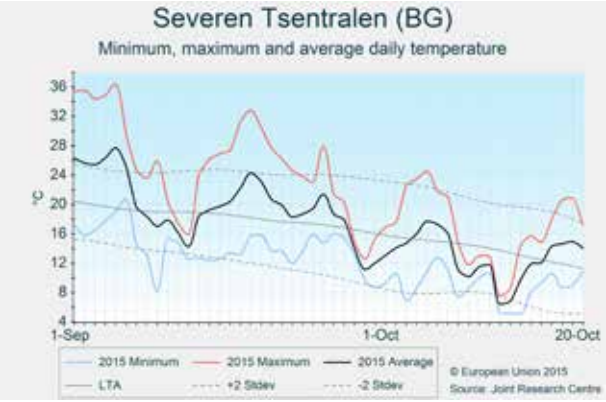


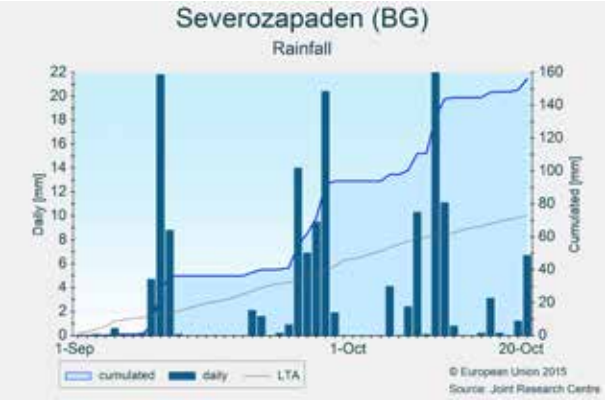


Bulgaria

Abundant rainfall hampers the summer crop harvest

September was marked by a positive thermal anomaly of around 2 °C in Bulgaria, but the daily mean temperatures in October remained near the long-term average. Abundant rainfall events occurred during the whole period of review, resulting in exceedances over the long-term average of 20-130 %. Despite the alternation with dry periods, the wet weather delayed the harvesting of summer crops and could have caused harvest losses in the case of sunflowers. The above-average precipitation may also have delayed the sowing of winter wheat, primarily in western Bulgaria. Conditions were less adverse in eastern Bulgaria, given the less abundant rains of mid-October and the later sowing window. The low yield forecast due to the hot and dry conditions during summer is maintained for maize, whereas the forecast for sunflowers was revised further downwards due to the difficult harvest conditions.

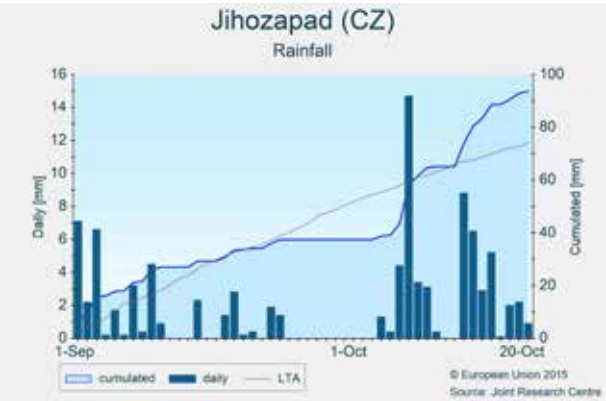


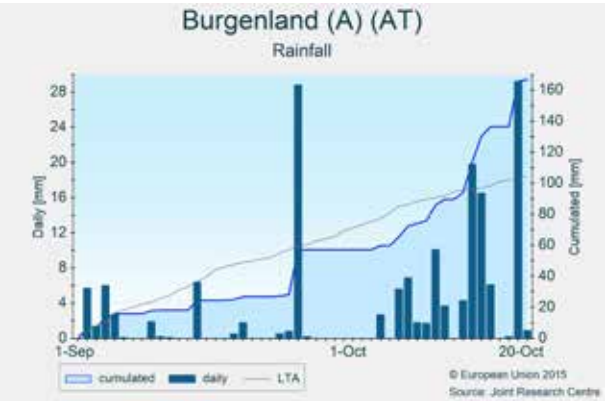


Austria, Slovakia and the Czech Republic

Wet first half of autumn in Austria and Slovakia

September was warmer than usual in Slovakia and the eastern part of the Czech Republic. Elsewhere, around-average or slightly colder-than-seasonal temperatures were recorded. October started with normal or slightly warmer-than-usual weather conditions. Negative temperature anomalies were recorded during the second dekad, especially in the Czech Republic. September was drier than usual in the Czech Republic, whereas normal or above-average rainfall was recorded in Austria and Slovakia. The first two dekads of October were wetter than usual. Recent rainfall episodes in Austria, the central part of Slovakia and the western half of the Czech Republic are causing a delay in the harvesting of summer crops and the sowing of winter wheat.

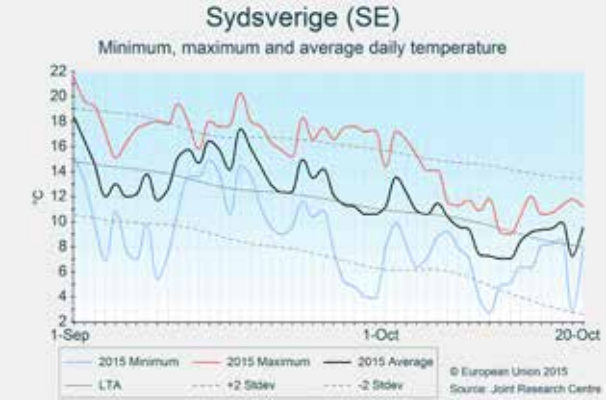


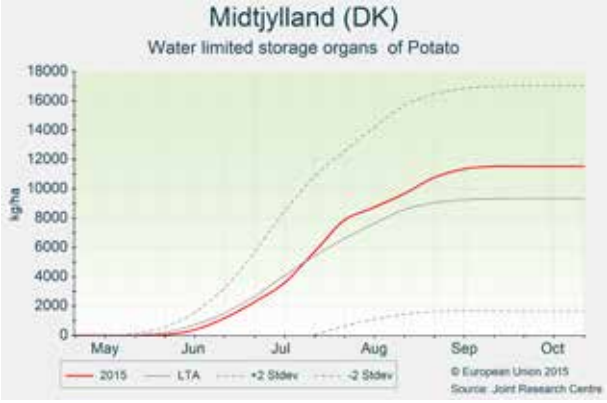


Denmark and Sweden

Harvest of cereals completed with good yield outlook

During most of September, warmer-than-usual temperatures were recorded in both countries, whereas October presented a sudden drop in temperatures to below-average levels. Overall, both countries experienced above-average rainfall. The harvesting of cereals (barley and wheat), which was initiated on time in Sweden (second dekad of August) and with a slight delay in Denmark (last dekad of August), was completed with no significant difficulties during the first dekad of September, before a period of unusual rainfall. The relatively warm early autumn conditions increased the risks of pests (aphids, an important disease vector) in fields with early sown winter cereals, and the wet conditions could limit their effective control. The harvest of potatoes has been completed in southern Sweden and is underway in Denmark. Our simulation results suggest good yields of potatoes and sugar beets. The yield forecasts remain similar to those of the September bulletin.

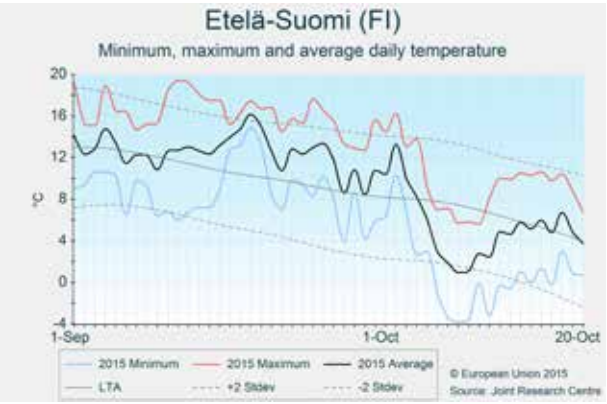


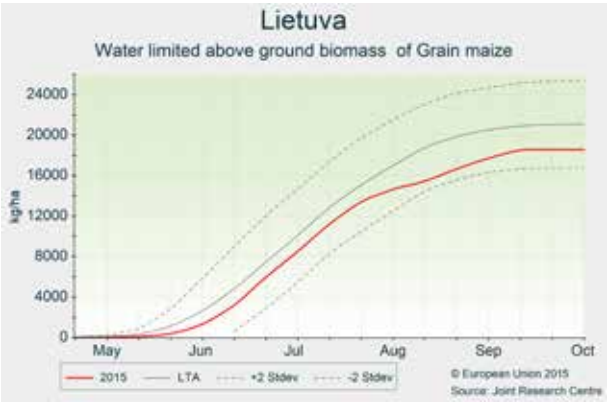


Finland, Lithuania, Latvia and Estonia

Cereal harvesting successfully completed

Overall, September was warmer than usual, whereas rainfall was around normal. Daily average temperatures reached positive anomalies of 7 °C in Lithuania, 8 °C in Latvia, 7 °C in Estonia and 6 °C in Finland. In Finland, above-seasonal temperatures and dry conditions in the first half of September allowed for the quick harvesting of rye and spring barley, after initial delays of 2-3 weeks due to overly wet soils. In the other countries, the harvest was completed with no particular concerns. Since early October, temperatures dropped below average throughout the region, and there was practically no precipitation, resulting in the driest 1 to 15 October period in our database for all countries. Soil moisture levels are particularly low in parts of Lithuania. These early cold and dry conditions could hamper the emergence of the winter crops that have already been sown. In Finland, the late start of the harvest campaign for cereals could negatively affect the sowing area of winter crops.

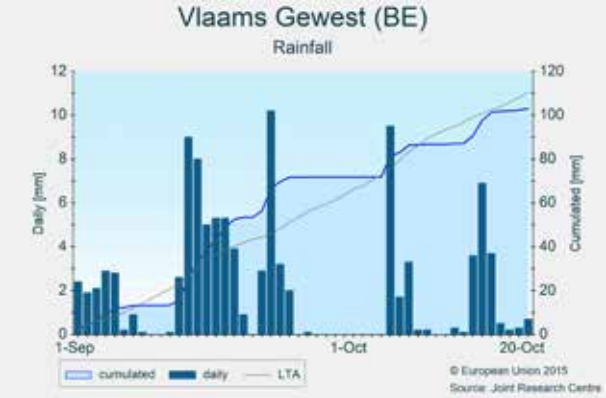


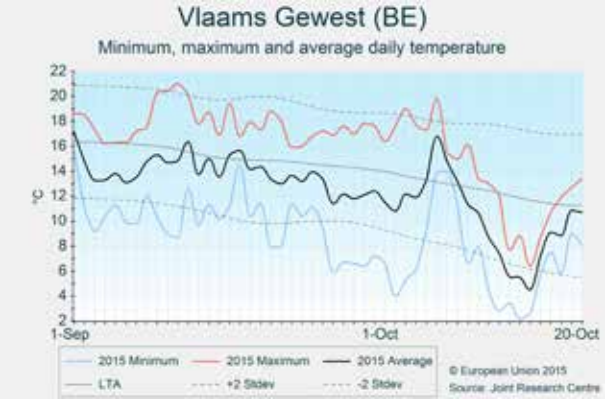


Belgium, the Netherlands and Luxembourg

Chilly and wet start of autumn

The period of review was characterised by predominantly below-average temperatures. The most pronounced temperature anomalies occurred during the first days of September and in mid-October, in particular between 12 and 16 October when daily average temperatures of around 5 °C were recorded. Minimum temperatures remained above 0 °C, however. Although rainfall was around average, the high frequency of rainfall events until 25 September hampered the harvesting of potatoes and, to a lesser extent, of sugar beets. The low temperatures slowed down the development of grain maize crops, but were favourable for beet sugar levels. The forecast yields for these crops remain practically unchanged compared to those of the September bulletin. The sowing of winter cereals, which mainly took off in October, is progressing well.

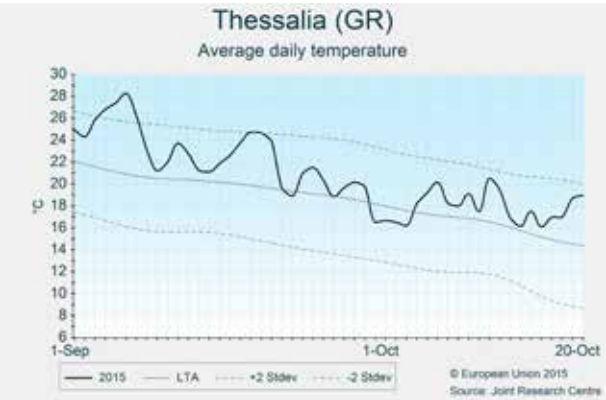


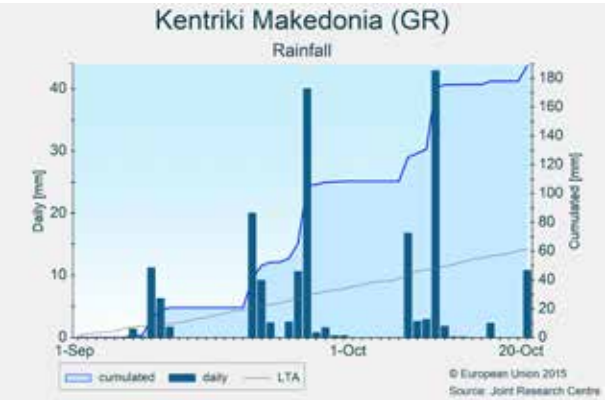


Greece and Cyprus

Harvesting of grain maize delayed

In Greece, temperatures in September and the first two dekads of October fluctuated mainly above the long-term average. Consequently, the period under consideration (i.e. 1 September-20 October) is ranked among the warmest in our database. Precipitation during the first two dekads of September was scarce, but the third dekad was rainy. The first and second dekads of October offered dry windows for harvesting, but the harvesting of grain maize has since been delayed, and is still ongoing with difficulties because of the fickle weather conditions. The harvesting of sunflowers was completed in September. In Cyprus, temperatures have been consistently above average since 1 September, whereas rainfall has been sparse, with just a few rainy days.

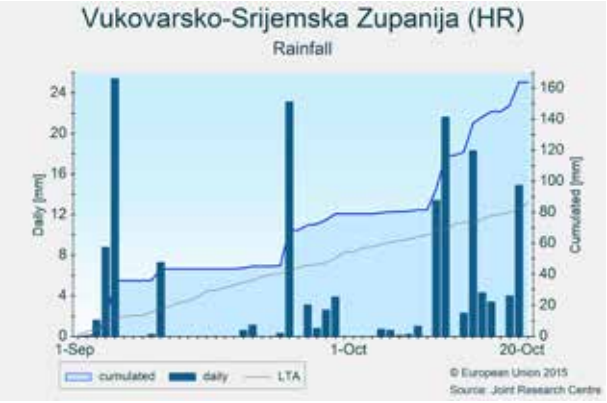


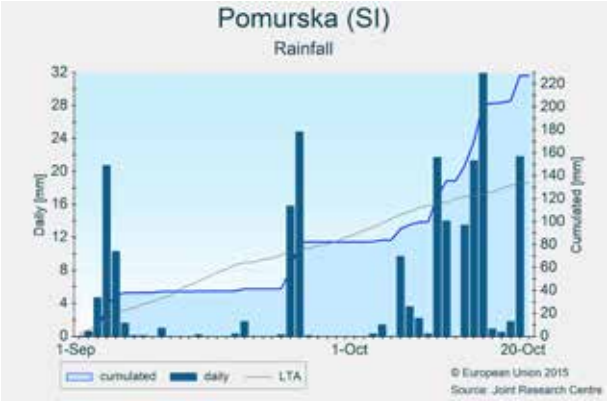


Slovenia and Croatia

Abundant rainfall in October disrupts the sowing of winter wheat

Temperature conditions were close to seasonal during the first dekad of September and substantially greater than seasonal during the second dekad of September. Temperatures dropped below average during the third dekad of September. Temperatures during the first two dekads of October were closer to the long-term average in Croatia, whereas colder-than-usual weather prevailed in Slovenia. September was wetter than usual over the western and central parts of Slovenia and *Licko-Senjska Zupanija*. Abundant rainfall during the first two dekads of October caused flooding and water logging in many areas. It is also causing delays to the harvesting of the remaining summer crops and the sowing of winter wheat.



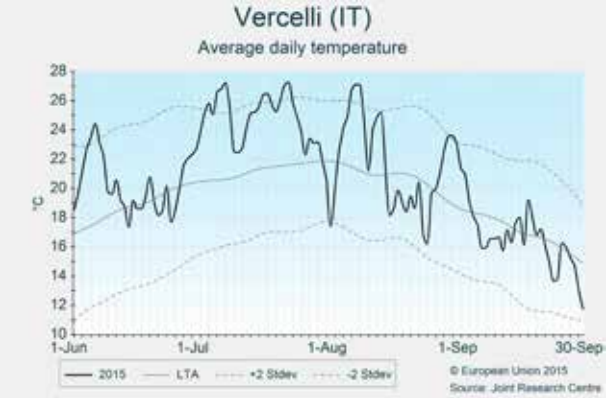


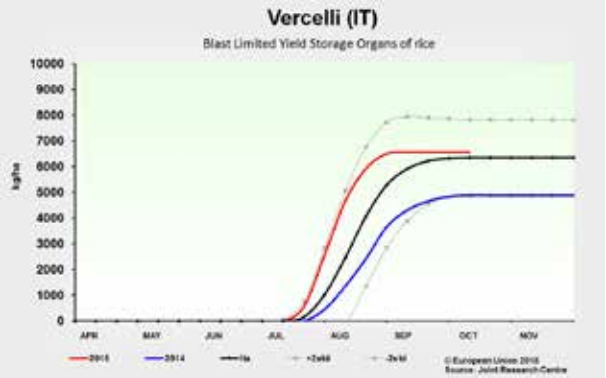
3.2 EU rice-producing countries

Italy

Positive yield outlook

Predominantly warm summer conditions in Italy advanced the development of rice crops in *Piemonte* and *Lombardia*. Maximum temperatures reached 34 °C during the second dekad of July, with no negative impacts on the crop. On the contrary, the accelerated crop development led to an advance in the harvest of about 10 days compared with last year. Precipitation was slightly lower than average, but well distributed throughout the season. Thus, weather conditions were generally favourable for rice. According to our model, accumulated biomass and storage organ biomass are above the average, and the risk of fungal infection is close to normal. For these reasons, the yield forecast was revised upwards, and it is now above the 5-year average value.

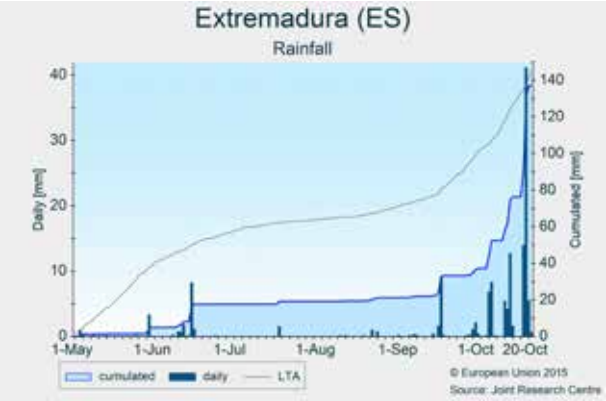


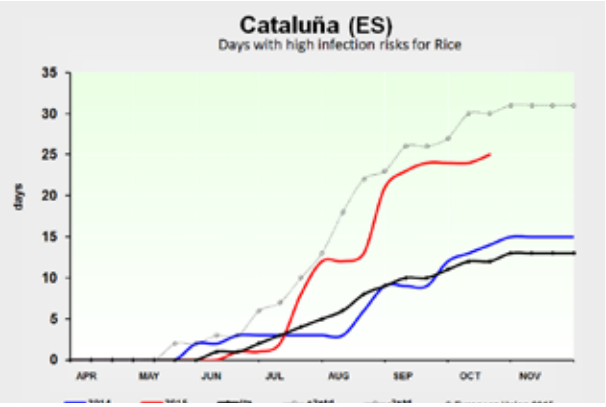


Spain

Positive outlook for yields despite disease infection risk

Since the start of the growing season, dry conditions prevailed in some parts of Spain, mainly affecting the rice-producing areas of *Andalucía* and *Extremadura*, with potential consequences for irrigation. Higher cumulated rainfall was reported in *Navarra* and *Aragón*, increasing the risk of blast infection. Overall, all regions experienced greater-than-seasonal active temperatures (T-base = 10 °C) and average radiation for most of the cycle, which contributed to fast crop growth and development. Growth indicators such as storage organ biomass and leaf area are around the long-term average in northern areas and below average in southern areas. Crop development was advanced throughout the season. Most regions present average or slightly above-average biomass in storage organs, even when considering the potential impacts of blast infection. The forecast was revised slightly upwards, thus remaining above the 5-year average.

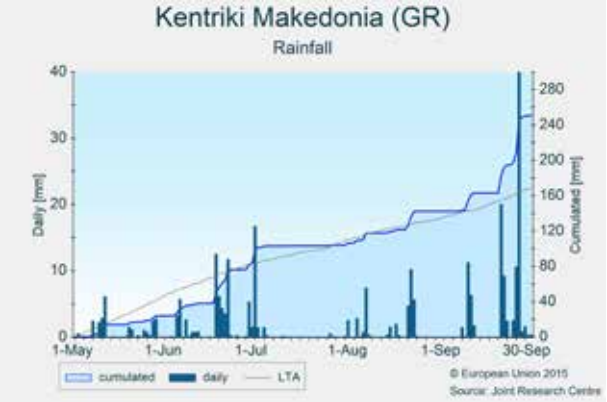


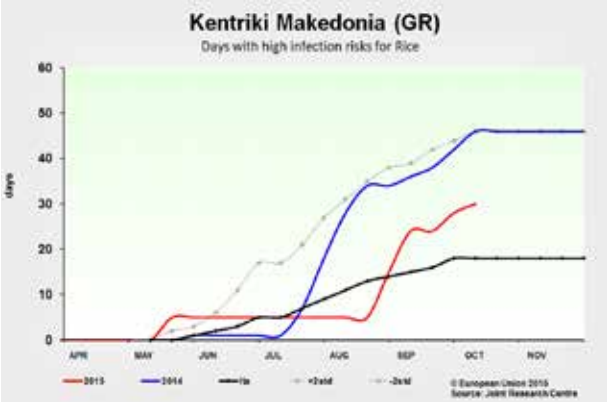


Greece

Rain causes some difficulties during harvesting

Meteorological conditions were good in the main rice-producing areas of Greece (*Kentriki Makedonia*). Above-average temperatures prevailed throughout most of the season. Precipitation was close to average throughout the season with the exception of the end of September, when intense precipitation hampered harvesting operations, which had started during good weather conditions in mid-September. Potential crop growth indicators calculated by our models, such as total biomass accumulation and storage organ biomass, are close to the long-term average. However, a higher number of days with infection risk is predicted in coastal areas because of the warm and humid weather conditions. As a consequence, the yield forecast is set above that of last year but below the 5-year average.

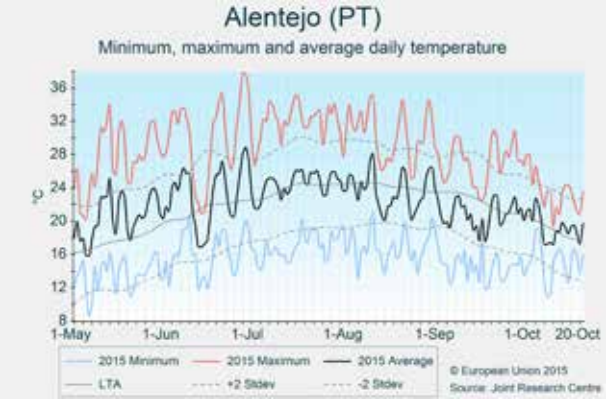


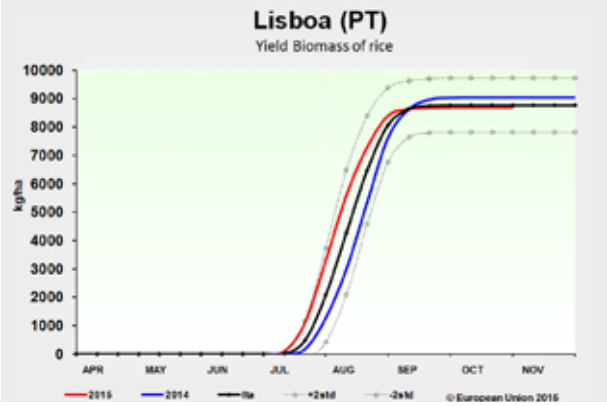


Portugal

Lower-than-average yields expected

This growing season was characterised by dry conditions in southern Portugal (*Alentejo*), but near-average rainfall in the central area (*Lisboa* and *Centro*). Average daily temperatures around the seasonal average prevailed until September, when temperatures dropped below the long-term average, causing crop development to lag somewhat behind. Solar radiation was below average. As a consequence, the simulated growth indicators and biomass accumulation in storage organs are slightly below the 5-year average The dry conditions helped maintain the number of days with a risk of blast infection around the long-term average values throughout the season. The yield forecast is maintained at slightly below the 5-year average.

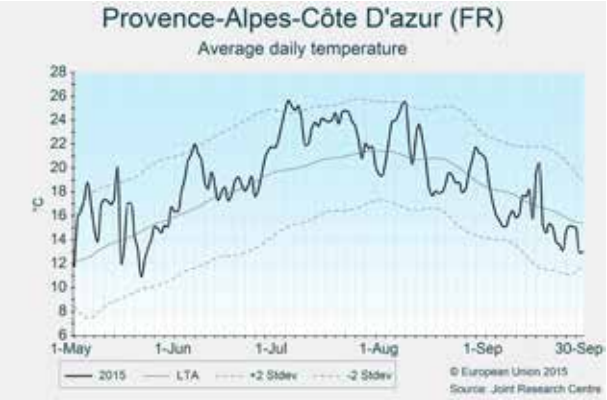


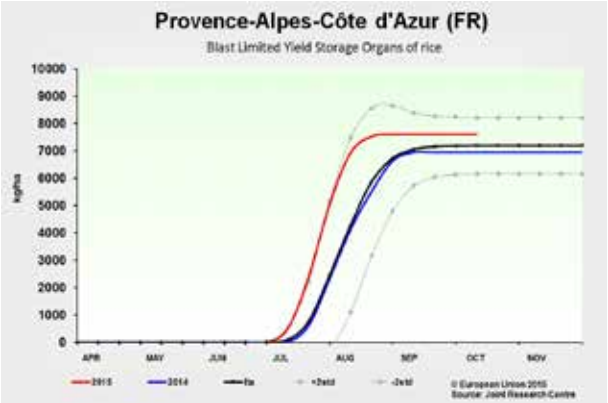


France

Above-average yield forecast

In the main rice-producing areas of France (*Languedoc-Roussillon* and *Provence-Alpes-Côte d'Azur*), favourable temperatures and close-to-average rainfall provided good conditions for crop growth and development since the start of the growing season. Temperatures during 2 weeks in mid-July were well above average, but maximum temperatures stayed below 34 °C, so no damage was caused to the crop. Precipitation was close to average and well distributed throughout the season. Crop indicators calculated by our models, such as total biomass accumulation, showed storage organ biomass and leaf area index to be above the average, and the risk of fungal infection was close to normal. The yield forecast remains high, well above last year's level and above the 5-year average.

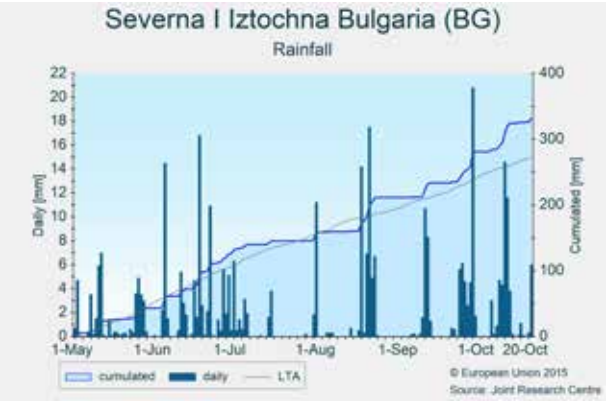


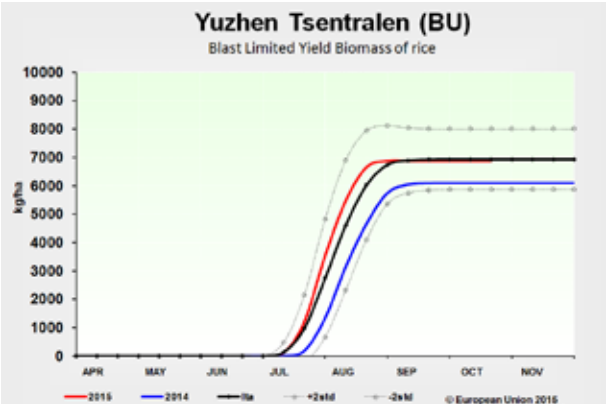


Bulgaria

Average yield expectations

Favourable temperatures and average rainfall during the growing season assured good conditions for crop growth and development, resulting in good canopy development. Some risk of blast infection occurred during the early stages of the crop cycle. Crop growth indicators simulate the biomass of storage organs to be around average by the end of the season, even accounting for yield reductions due to blast infections. According to the model results, the yield forecast remains close to the 5-year average.

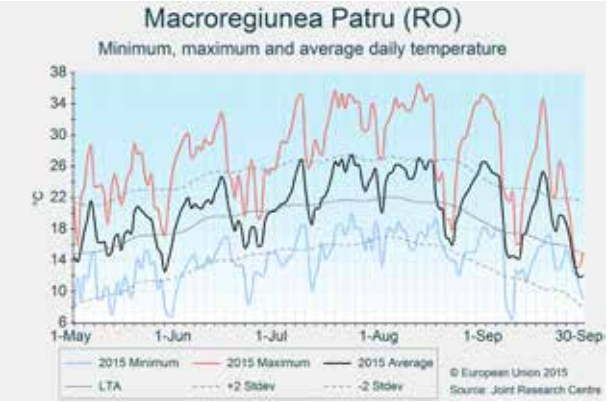


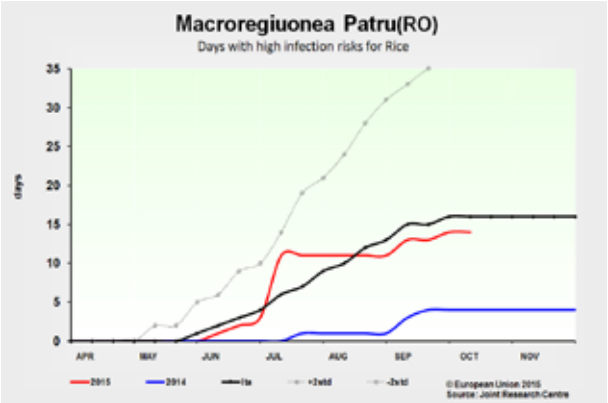


Romania

Yield expectations are above average

In Romania, favourable temperatures and close-to-average cumulated precipitation provided good conditions for rice growth and development during most of the growing season. However, the hot conditions during August and the beginning of September (with maximum temperatures above 36 °C) may have negatively affected potential yields. Considering the season as a whole, our model calculations suggest advanced phenological development and above-average total biomass accumulation and biomass in storage organs. As the risk of fungal infection is close to average, the yield expectations remain above the 5-year average, but lower than last year's level.

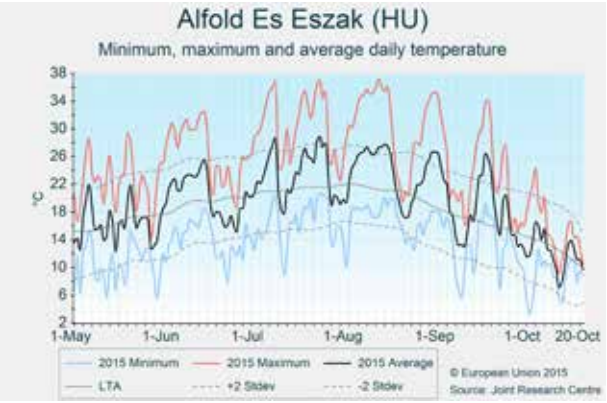


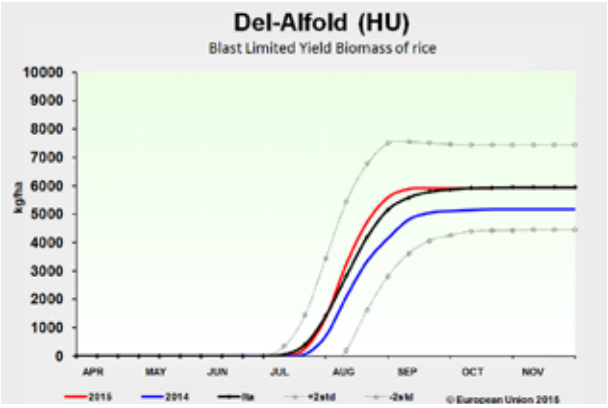


Hungary

Yield forecast revised upwards

This growing season was characterised by a predominance of periods of above-average daily temperatures and near-average rainfall. The hot conditions led to an increase in the number of days with a high risk of blast infection, particularly in the northern region during the grain-filling phase. Nevertheless, our models indicate near-average biomass accumulation in storage organs in both main producing regions (*Dél-Alföld* and *Eszak-Alföld*). Therefore, the yield forecast was revised slightly upwards.





3.3 Black Sea Area

Ukraine

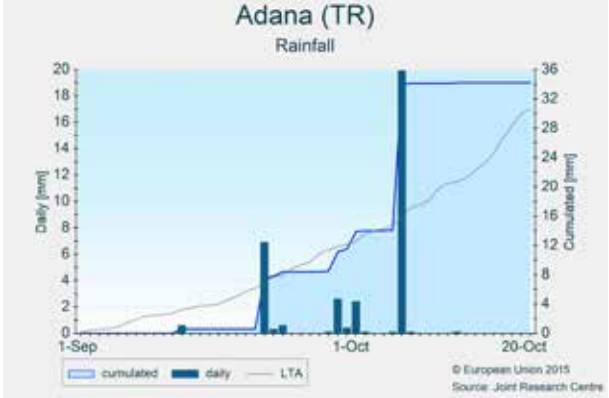
Concerns about winter cereal sowings and germination

Following a dry and hot summer in western regions, some rainfall reaching the long-term average was observed during September. However, this rainfall was not sufficient to replenish the soil moisture levels (*Vinnytsia* oblast received only 54 % of the average rainfall amount since 1 January). In eastern oblasts, a significant rain deficit was recorded from the beginning of September onwards (*Zaporizhia* Oblast received 3 mm of rain for the period of analysis). While temperatures were above average in September, they dropped to well below the average and close to 0 °C after 7 October. The sowing of winter cereals is hampered by the dry conditions followed by minimum temperatures that are currently below 0 °C, particularly in eastern regions. In southern regions, temperatures are expected to remain positive for a few more weeks, and farmers should be able to finalise their planned sowing activities.

Turkey

Very warm September

In Turkey, temperatures during September were greatly above average in all regions. At country level, September 2015 is ranked as the warmest on our database (i.e. since 1975). Warm weather conditions continued in October, but temperatures were closer to average values. Regarding precipitation, the first two dekads of September were almost dry, but occasional rainfall events occurred throughout the country during the third dekad of September and the first two dekads of October. The harvesting of grain maize, which started in September, continued with no particular problems and is about to be completed. Overall, the yield forecast for grain maize suggests that this will be the fourth record year in a row.



3.3 European Russia and Belarus

European Russia

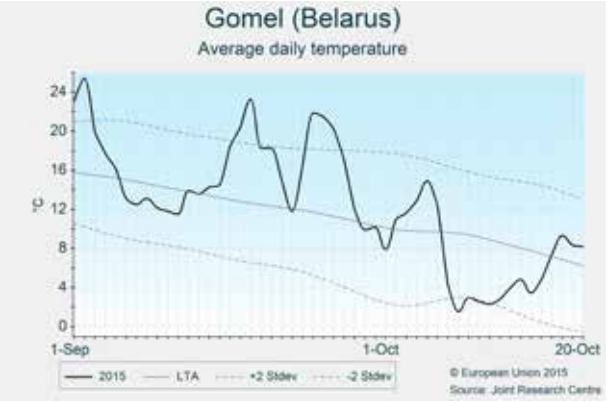
Winter wheat sowing delayed

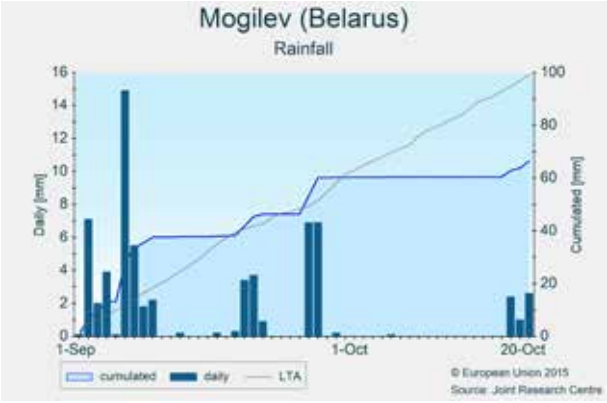
During September, daily mean temperatures exceeded the average by 2-5 °C in central and southern Russia. In October, temperatures dropped to 3-6 °C below average in the southern areas, which experienced frost events with minimum temperatures of - 2 °C to - 11 °C. The precipitation scarcity of late summer persisted in most of the Central Okrug and in the northern part of the Southern Okrug, especially in the *Rostovskaya* and *Volgogradskaya* oblasts. Very dry topsoil conditions hampered the sowing of winter wheat in these regions. Even where winter cereals have been sown, their emergence and early establishment is problematic due to limited water supply and uncommonly low temperatures. However, the dry weather conditions allowed for the rapid harvesting of grain maize, for which the yield expectations are high.

Belarus

Ongoing harvesting operation of grain maize

Warmer-than-usual temperatures were recorded in Belarus during the review period (1 September-20 October). Precipitation was close to average, except in *Gomel* and *Mogilev* where rainfall was about 30 mm below the average. Precipitation was concentrated in September, creating favourable conditions for the harvesting of grain maize since the beginning of October, about one dekad later than last year. Grain maize yields are forecast to be below the 5-year average, since drought and high temperatures affected summer crops during the previous months. The sowing of winter crops was completed within the first dekad of October, helped by warm temperatures.





4. Crop yield forecasts

Country	SOFT WHEAT t/ha					DURUM WHEAT t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	6.14	**5.86**	5.67	-4.6	+3.4	3.35	**3.20**	3.26	-4.4	-1.7
AT	5.98	**5.55**	5.30	-7.1	+4.8	4.78	**4.48**	4.50	-6.2	-0.5
BE	9.41	**8.93**	8.75	-5.2	+2.0	-	-	-	-	-
BG	4.22	**4.30**	3.94	+1.9	+9.0	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-
CZ	6.51	**5.67**	5.48	-12.9	+3.5	-	-	-	-	-
DE	8.64	**7.67**	7.64	-11.2	+0.3	6.51	**5.44**	5.39	-16.5	+0.9
DK	7.78	**7.47**	7.07	-4.1	+5.6	-	-	-	-	-
EE	3.99	**3.76**	3.37	-5.8	+11.7	-	-	-	-	-
ES	3.04	**3.06**	3.31	+0.4	-7.5	2.67	**2.31**	2.09	-13.6	+10.6
FI	4.06	**3.60**	3.70	-11.3	-2.6	-	-	-	-	-
FR	7.48	**7.51**	7.15	+0.4	+4.9	5.20	**5.25**	5.14	+1.1	+2.1
GR	3.31	**2.91**	3.04	-12.3	-4.3	2.96	**2.70**	2.78	-8.8	-2.8
HR	4.14	**5.22**	4.70	+26.2	+11.1	-	-	-	-	-
HU	4.71	**4.48**	4.21	-4.9	+6.3	4.55	**4.32**	4.03	-5.0	+7.2
IE	9.96	**9.33**	8.84	-6.3	+5.6	-	-	-	-	-
IT	5.29	**5.48**	5.38	+3.5	+1.8	3.13	**2.98**	3.13	-4.9	-4.7
LT	4.56	**4.16**	4.13	-8.8	+0.8	-	-	-	-	-
LU	6.13	**6.00**	5.98	-2.2	+0.4	-	-	-	-	-
LV	3.75	**4.03**	3.60	+7.5	+11.8	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-
NL	9.11	**8.88**	8.80	-2.6	+0.8	-	-	-	-	-
PL	4.97	**4.44**	4.32	-10.7	+2.7	-	-	-	-	-
PT	2.06	**1.65**	1.50	-19.9	+9.6	-	-	-	-	-
RO	3.65	**3.46**	3.23	-5.2	+7.1	-	-	-	-	-
SE	6.80	**6.12**	5.95	-10.1	+2.9	-	-	-	-	-
SI	5.23	**4.96**	5.02	-5.2	-1.1	-	-	-	-	-
SK	5.47	**4.37**	4.34	-20.1	+0.6	5.32	**3.31**	3.77	-37.8	-12.1
UK	8.58	**8.09**	7.63	-5.7	+6.0	-	-	-	-	-

Country	SPRING BARLEY t/ha					WINTER BARLEY t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	4.16	**3.93**	3.91	-5.5	+0.4	5.92	**5.61**	5.36	-5.2	+4.7
AT	4.68	**3.69**	4.13	-21.1	-10.7	6.67	**5.88**	5.87	-11.9	+0.2
BE	-	-	-	-	-	9.30	**8.69**	8.65	-6.5	+0.5
BG	-	-	-	-	-	4.00	**3.90**	3.72	-2.6	+4.7
CY	-	-	-	-	-	2.44	**2.57**	1.97	+5.3	+30.6
CZ	5.56	**4.69**	4.52	-15.7	+3.6	5.74	**4.79**	4.69	-16.6	+2.1
DE	5.98	**5.33**	5.38	-10.9	-1.0	7.73	**6.87**	6.71	-11.2	+2.3
DK	5.68	**5.89**	5.41	+3.6	+8.9	6.63	**6.36**	6.01	-4.0	+5.9
EE	3.64	**3.18**	2.94	-12.8	+8.2	-	-	-	-	-
ES	2.58	**2.56**	2.70	-0.5	-4.9	1.91	**2.19**	2.44	+14.7	-10.0
FI	3.73	**3.18**	3.44	-14.6	-7.5	-	-	-	-	-
FR	6.11	**6.17**	6.04	+0.9	+2.1	6.88	**6.88**	6.50	-0.0	+5.8
GR	-	-	-	-	-	3.05	**2.70**	2.96	-11.5	-8.7
HR	-	-	-	-	-	3.82	**4.67**	4.14	+22.3	+12.9
HU	3.89	**3.47**	3.36	-10.8	+3.1	4.67	**4.31**	4.15	-7.9	+3.8
IE	7.56	**7.43**	6.99	-1.7	+6.3	9.32	**9.18**	8.86	-1.5	+3.7
IT	-	-	-	-	-	3.64	**3.62**	3.66	-0.4	-0.9
LT	3.80	**3.20**	3.21	-15.9	-0.3	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-
LV	3.56	**2.79**	2.94	-21.6	-5.0	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-
NL	6.75	**6.37**	6.19	-5.7	+3.0	-	-	-	-	-
PL	3.82	**3.23**	3.39	-15.4	-4.7	4.68	**4.15**	4.07	-11.3	+2.0
PT	-	-	-	-	-	2.18	**1.63**	1.57	-25.2	+3.7
RO	2.44	**2.33**	2.09	-4.8	+11.0	3.69	**3.40**	3.28	-8.0	+3.5
SE	4.71	**4.60**	4.40	-2.5	+4.4	6.41	**6.44**	5.46	+0.4	+17.8
SI	-	-	-	-	-	4.85	**4.35**	4.48	-10.2	-2.8
SK	4.78	**3.34**	3.61	-30.1	-7.4	5.24	**4.10**	3.99	-21.7	+2.7
UK	5.86	**5.64**	5.37	-3.8	+5.0	7.22	**6.61**	6.57	-8.4	+0.6

Country	TOTAL WHEAT t/ha					TOTAL BARLEY t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	5.90	**5.62**	5.44	-4.8	+3.3	4.90	**4.65**	4.49	-5.1	+3.5
AT	5.92	**5.50**	5.26	-7.2	+4.5	5.80	**4.91**	5.03	-15.4	-2.4
BE	9.41	**8.93**	8.75	-5.2	+2.0	9.30	**8.69**	8.65	-6.5	+0.5
BG	4.22	**4.30**	3.94	+1.9	+9.0	4.00	**3.90**	3.72	-2.6	+4.7
CY	-	**-**	-	-	-	2.44	**2.57**	1.97	+5.3	+30.6
CZ	6.51	**5.67**	5.48	-12.9	+3.5	5.61	**4.71**	4.57	-16.0	+3.2
DE	8.63	**7.65**	7.63	-11.3	+0.3	7.35	**6.48**	6.36	-11.8	+1.9
DK	7.78	**7.47**	7.07	-4.1	+5.6	5.87	**5.98**	5.52	+1.8	+8.2
EE	3.99	**3.76**	3.37	-5.8	+11.7	3.64	**3.18**	2.94	-12.8	+8.2
ES	2.99	**2.95**	3.09	-1.5	-4.6	2.49	**2.51**	2.66	+0.7	-5.7
FI	4.06	**3.60**	3.70	-11.3	-2.6	3.73	**3.18**	3.44	-14.6	-7.5
FR	7.36	**7.37**	7.01	+0.2	+5.3	6.65	**6.70**	6.35	+0.7	+5.4
GR	3.08	**2.77**	2.85	-10.0	-2.9	3.05	**2.70**	2.96	-11.5	-8.7
HR	4.14	**5.22**	4.70	+26.2	+11.1	3.82	**4.67**	4.14	+22.3	+12.9
HU	4.71	**4.48**	4.21	-4.9	+6.3	4.45	**4.06**	3.88	-8.7	+4.8
IE	9.96	**9.33**	8.84	-6.3	+5.6	8.05	**8.06**	7.39	+0.0	+9.1
IT	3.81	**3.71**	3.84	-2.8	-3.5	3.64	**3.62**	3.66	-0.4	-0.9
LT	4.56	**4.16**	4.13	-8.8	+0.8	3.80	**3.20**	3.21	-15.9	-0.3
LU	6.13	**6.00**	5.98	-2.2	+0.4	-	**-**	-	-	-
LV	3.75	**4.03**	3.60	+7.5	+11.8	3.56	**2.79**	2.94	-21.6	-5.0
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	9.11	**8.88**	8.80	-2.6	+0.8	6.75	**6.37**	6.19	-5.7	+3.0
PL	4.97	**4.44**	4.32	-10.7	+2.7	4.05	**3.45**	3.54	-14.8	-2.3
PT	2.06	**1.65**	1.50	-19.9	+9.6	2.18	**1.63**	1.57	-25.2	+3.7
RO	3.65	**3.46**	3.23	-5.2	+7.1	3.36	**3.07**	2.91	-8.7	+5.4
SE	6.80	**6.12**	5.95	-10.1	+2.9	4.78	**4.68**	4.45	-2.0	+5.4
SI	5.23	**4.96**	5.02	-5.2	-1.1	4.85	**4.35**	4.48	-10.2	-2.8
SK	5.46	**4.31**	4.32	-21.1	-0.2	4.87	**3.52**	3.66	-27.7	-3.9
UK	8.58	**8.09**	7.63	-5.7	+6.0	6.40	**6.05**	5.83	-5.5	+3.8

Country	GRAIN MAIZE t/ha					RYE t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	8.16	**6.47**	7.04	-20.7	-8.0	4.23	**3.72**	3.58	-12.1	+3.8
AT	10.79	**9.76**	10.16	-9.6	-4.0	4.87	**4.25**	4.25	-12.6	-0.0
BE	10.50	**11.15**	10.98	+6.1	+1.5	-	**-**	-	-	-
BG	7.68	**4.94**	5.77	-35.8	-14.4	-	**-**	-	-	-
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	8.43	**6.18**	7.74	-26.7	-20.2	4.99	**4.46**	4.61	-10.7	-3.3
DE	10.69	**9.44**	10.00	-11.7	-5.6	6.12	**5.38**	5.31	-12.1	+1.4
DK	-	**-**	-	-	-	6.36	**5.92**	5.83	-6.9	+1.5
EE	-	**-**	-	-	-	3.22	**2.94**	2.67	-8.6	+10.3
ES	11.24	**11.08**	10.90	-1.4	+1.7	1.72	**1.87**	2.05	+8.7	-8.8
FI	-	**-**	-	-	-	3.17	**2.87**	2.87	-9.7	-0.2
FR	10.63	**8.90**	9.30	-16.3	-4.4	4.90	**4.97**	4.91	+1.4	+1.2
GR	11.96	**11.81**	11.53	-1.3	+2.4	2.11	**1.85**	2.11	-12.2	-12.2
HR	8.11	**5.29**	6.06	-34.7	-12.7	-	**-**	-	-	-
HU	7.74	**5.25**	5.92	-32.1	-11.3	2.91	**2.80**	2.52	-3.9	+11.1
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	10.62	**9.35**	9.21	-12.0	+1.5	-	**-**	-	-	-
LT	6.05	**5.95**	6.69	-1.6	-11.0	2.25	**2.23**	2.17	-1.1	+2.4
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	3.57	**3.18**	2.90	-10.9	+9.7
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	13.06	**11.94**	11.35	-8.5	+5.2	-	**-**	-	-	-
PL	6.59	**5.42**	6.47	-17.8	-16.3	3.15	**2.83**	2.71	-10.3	+4.2
PT	8.44	**8.51**	8.05	+0.9	+5.7	0.94	**0.98**	0.87	+4.2	+12.5
RO	4.72	**3.24**	3.75	-31.4	-13.7	-	**-**	-	-	-
SE	-	**-**	-	-	-	6.51	**6.39**	5.75	-1.8	+11.1
SI	9.16	**8.00**	7.78	-12.7	+2.7	-	**-**	-	-	-
SK	8.39	**5.62**	6.47	-33.0	-13.0	3.66	**3.39**	3.29	-7.4	+3.3
UK	-	**-**	-	-	-	-	**-**	-	-	-

Country	TRITICALE t/ha					RAPE AND TURNIP RAPE t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	4.53	**4.08**	4.15	-9.9	-1.8	3.62	**3.25**	3.13	-10.3	+3.7
AT	5.90	**5.29**	5.16	-10.3	+2.5	3.76	**3.30**	3.26	-12.0	+1.5
BE	-	**-**	-	-	-	4.81	**4.52**	4.33	-6.0	+4.5
BG	3.18	**3.00**	2.87	-5.6	+4.3	2.78	**2.60**	2.47	-6.2	+5.4
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	5.03	**4.47**	4.51	-11.2	-0.9	3.95	**3.44**	3.19	-13.0	+7.7
DE	7.11	**6.29**	6.12	-11.5	+2.8	4.48	**3.77**	3.80	-15.8	-0.7
DK	6.19	**5.72**	5.27	-7.5	+8.5	4.27	**3.83**	3.76	-10.3	+1.9
EE	-	**-**	-	-	-	2.08	**1.94**	1.76	-6.9	+10.0
ES	2.33	**2.17**	2.28	-6.8	-4.9	2.46	**2.30**	2.22	-6.5	+3.3
FI	-	**-**	-	-	-	1.44	**1.29**	1.37	-10.4	-5.8
FR	5.21	**5.04**	5.30	-3.3	-5.0	3.67	**3.43**	3.38	-6.6	+1.7
GR	-	**-**	-	-	-	-	**-**	-	-	-
HR	3.63	**3.65**	3.76	+0.7	-2.8	3.10	**2.94**	2.68	-5.0	+9.9
HU	3.96	**3.90**	3.56	-1.5	+9.6	3.19	**2.57**	2.52	-19.6	+1.7
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	-	**-**	-	-	-	2.40	**2.40**	2.36	+0.0	+1.8
LT	3.29	**3.12**	3.03	-5.2	+2.9	2.33	**2.18**	2.09	-6.3	+4.5
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	1.97	**2.35**	2.11	+19.0	+11.3
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	-	**-**	-	-	-	-	**-**	-	-	-
PL	4.02	**3.47**	3.53	-13.5	-1.6	3.43	**3.08**	2.78	-10.2	+11.0
PT	1.48	**1.51**	1.25	+1.8	+20.7	-	**-**	-	-	-
RO	3.68	**3.45**	3.36	-6.1	+2.8	2.62	**2.21**	2.15	-15.6	+2.9
SE	5.92	**5.67**	5.14	-4.2	+10.4	3.38	**3.16**	2.82	-6.6	+12.0
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	3.57	**3.28**	3.24	-8.2	+1.1	3.57	**2.64**	2.53	-26.1	+4.5
UK	4.45	**4.09**	3.98	-8.3	+2.6	3.70	**3.73**	3.49	+0.8	+6.9

Country	SUGAR BEETS t/ha					POTATO t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	76.97	**70.48**	70.44	-8.4	+0.1	34.71	**31.60**	31.39	-9.0	+0.7
AT	83.87	**68.19**	71.96	-18.7	-5.2	35.10	**32.04**	32.15	-8.7	-0.3
BE	81.75	**77.85**	76.05	-4.8	+2.4	54.00	**43.61**	46.89	-19.2	-7.0
BG	-	**-**	-	-	-	13.01	**13.84**	14.23	+6.4	-2.7
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	70.28	**63.61**	62.19	-9.5	+2.3	29.07	**24.32**	27.25	-16.3	-10.7
DE	79.86	**69.58**	70.36	-12.9	-1.1	47.42	**43.02**	43.48	-9.3	-1.1
DK	59.70	**61.59**	62.65	+3.2	-1.7	43.12	**41.16**	39.54	-4.5	+4.1
EE	-	**-**	-	-	-	-	**-**	-	-	-
ES	92.21	**93.25**	85.06	+1.1	+9.6	31.89	**30.89**	30.14	-3.1	+2.5
FI	38.21	**36.15**	36.25	-5.4	-0.3	27.93	**25.70**	25.80	-8.0	-0.4
FR	93.26	**87.99**	88.11	-5.7	-0.1	47.94	**42.38**	44.03	-11.6	-3.8
GR	-	**-**	-	-	-	23.82	**25.92**	25.47	+8.8	+1.8
HR	63.60	**43.64**	51.02	-31.4	-14.5	17.00	**16.68**	16.66	-1.9	+0.1
HU	66.37	**53.90**	53.47	-18.8	+0.8	26.27	**22.84**	23.82	-13.1	-4.1
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	57.01	**57.97**	57.44	+1.7	+0.9	26.20	**25.65**	25.06	-2.1	+2.3
LT	53.00	**50.25**	50.90	-5.2	-1.3	18.00	**14.92**	16.07	-17.1	-7.1
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	18.00	**18.89**	17.45	+4.9	+8.2
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	87.40	**80.92**	79.19	-7.4	+2.2	45.00	**44.03**	43.88	-2.2	+0.3
PL	54.80	**49.80**	52.18	-9.1	-4.6	23.60	**20.90**	21.40	-11.4	-2.3
PT	-	**-**	-	-	-	19.84	**19.05**	17.14	-4.0	+11.1
RO	40.99	**29.73**	34.64	-27.5	-14.2	16.73	**13.00**	14.60	-22.3	-11.0
SE	59.77	**61.35**	58.91	+2.7	+4.2	32.51	**33.48**	32.08	+3.0	+4.4
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	61.04	**49.29**	54.33	-19.3	-9.3	-	**-**	-	-	-
UK	80.26	**71.72**	69.25	-10.6	+3.6	42.29	**41.43**	40.63	-2.0	+2.0

Country	SUNFLOWER t/ha				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs
EU-28	2.15	**1.86**	1.91	-13.6	-2.8
AT	2.83	**2.62**	2.58	-7.3	+1.5
BE	-	**-**	-	-	-
BG	2.38	**2.15**	2.12	-9.6	+1.6
CY	-	**-**	-	-	-
CZ	2.27	**2.23**	2.36	-1.9	-5.5
DE	2.30	**2.01**	2.12	-12.8	-5.6
DK	-	**-**	-	-	-
EE	-	**-**	-	-	-
ES	1.25	**1.03**	1.14	-17.9	-9.8
FI	-	**-**	-	-	-
FR	2.40	**2.28**	2.32	-5.3	-2.1
GR	1.96	**2.43**	2.16	+23.7	+12.1
HR	2.83	**2.65**	2.51	-6.6	+5.6
HU	2.60	**2.41**	2.31	-7.4	+4.2
IE	-	**-**	-	-	-
IT	2.20	**2.18**	2.22	-0.9	-1.9
LT	-	**-**	-	-	-
LU	-	**-**	-	-	-
LV	-	**-**	-	-	-
MT	-	**-**	-	-	-
NL	-	**-**	-	-	-
PL	-	**-**	-	-	-
PT	1.05	**0.58**	0.65	-44.4	-10.7
RO	2.15	**1.54**	1.72	-28.4	-10.4
SE	-	**-**	-	-	-
SI	-	**-**	-	-	-
SK	2.62	**2.28**	2.28	-12.9	-0.0
UK	-	**-**	-	-	-

NB: Yields are forecast for crops with more than 10 000 ha per country.
Sources: 2009-2015 data come from DG Agriculture and Rural Development short-term Outlook data (dated September 2015. received on 12.10.2015). Eurostat Eurobase (last update: 6.10.2015) and EES (last update: 18.8.2015).
2015 yields come from MARS Crop Yield Forecasting System (output up to 20.10.2015).

Country	WHEAT (t/ha)				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs
BY	4.00	**3.49**	3.39	-12.7	+3.1
DZ	1.48	**1.72**	1.59	+15.9	+7.6
MA	1.71	**2.04**	1.65	+19.5	+23.8
TN	2.09	**2.14**	1.91	+2.3	+12.0
TR	2.40	**2.72**	2.59	+13.4	+5.0
UA	4.01	**3.68**	3.27	-8.4	+12.5

Country	BARLEY (t/ha)				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs
BY	3.60	**3.34**	3.15	-7.3	+5.9
DZ	1.18	**1.65**	1.39	+39.9	+18.4
MA	0.97	**1.24**	1.10	+27.7	+12.6
TN	1.41	**1.51**	1.19	+6.7	+26.8
TR	2.31	**2.73**	2.56	+18.0	+6.6
UA	3.01	**2.93**	2.36	-2.8	+24.1

Country	GRAIN MAIZE (t/ha)				
	2014	2015	Avg 5yrs	%15/14	%15/5yrs
BY	5.43	**5.23**	5.57	-3.6	-6.1
DZ	-	**-**	-	-	-
MA	-	**-**	-	-	-
TN	-	**-**	-	-	-
TR	9.07	**9.35**	7.98	+3.1	+17.1
UA	6.07	**5.59**	5.61	-8.0	-0.3

NB: Yields are forecast for crops with more than 10 000 ha per country.
Sources: 2010-2014 data come from FAO. Turkish Statistical Office. PSD-online. INRA Maroc. MinAGRI Tunisia and DSASI Algeria.
*2014 yields come from MARS Crop Yield Forecasting System as reported values were not available.
2015 yields come from MARS Crop Yield Forecasting System (output up to 20.10.2015).


Soft wheat - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Durum wheat - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Total wheat - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Spring barley - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Winter barley - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Total barley - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Grain maize - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Rice - yield forecast 2015
Actual yield versus average yield 2010- 2014
lower yield (< -2 %)
comparable to average
better yield (> 2 %)


Rape and turnip - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

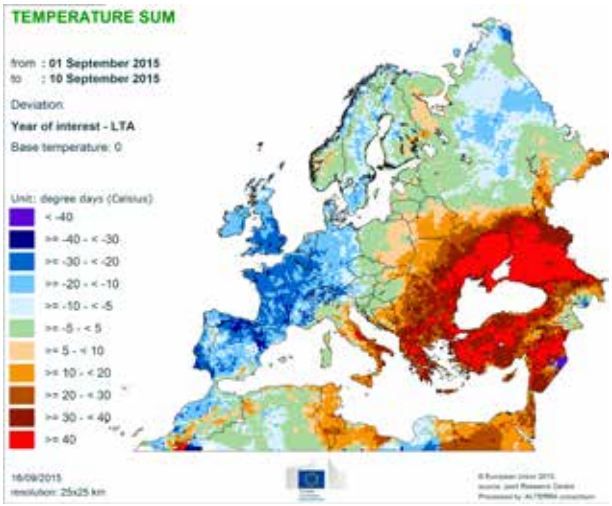

Sugar beets - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

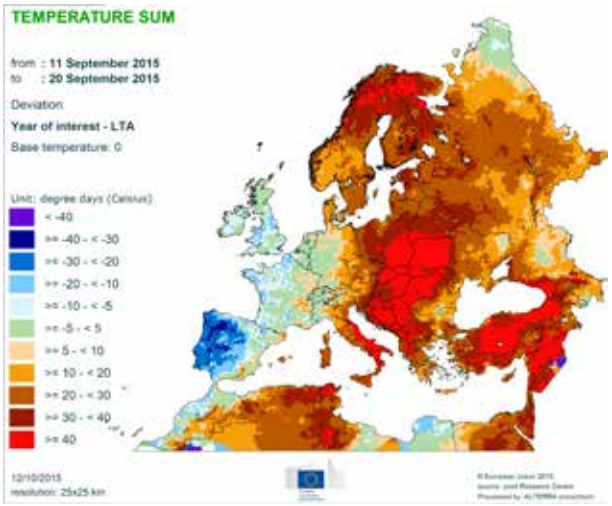

Potato - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

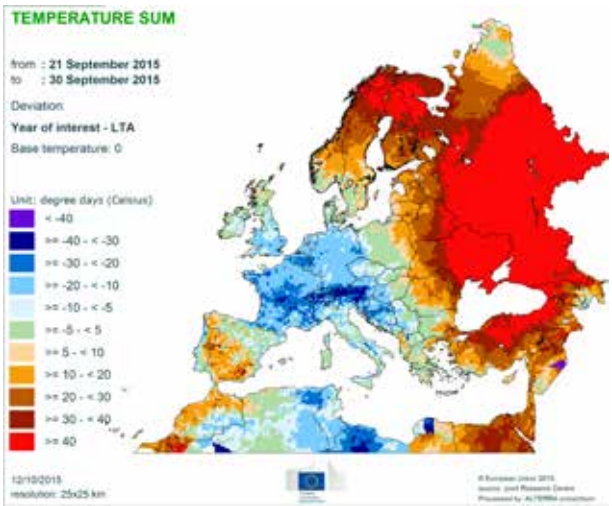

Sunflower - yield forecast 2015
Actual yield versus average yield 2010 - 2014
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

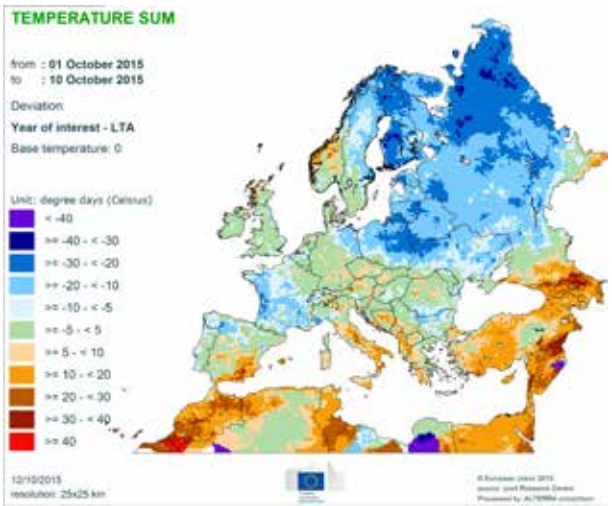
5. Atlas

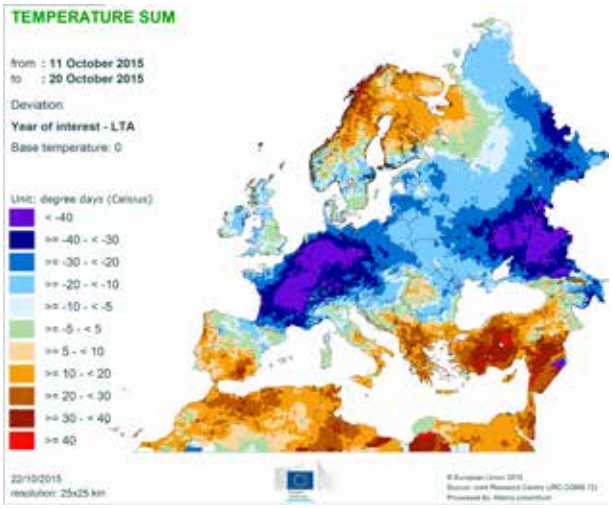
Temperature regime

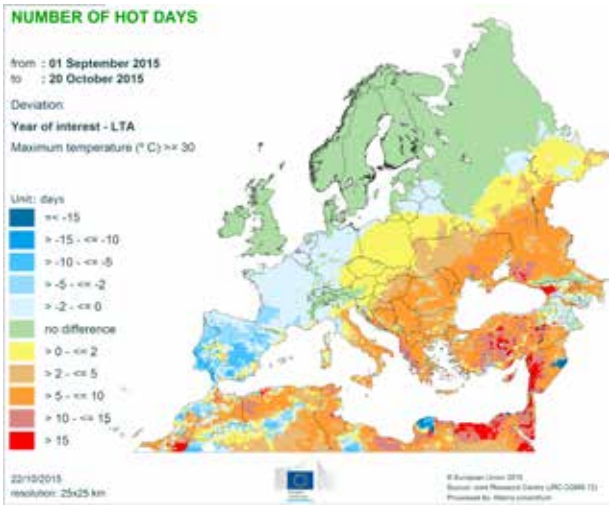


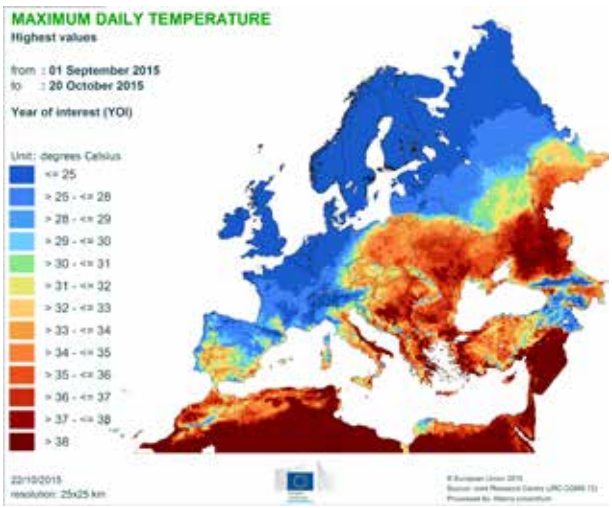


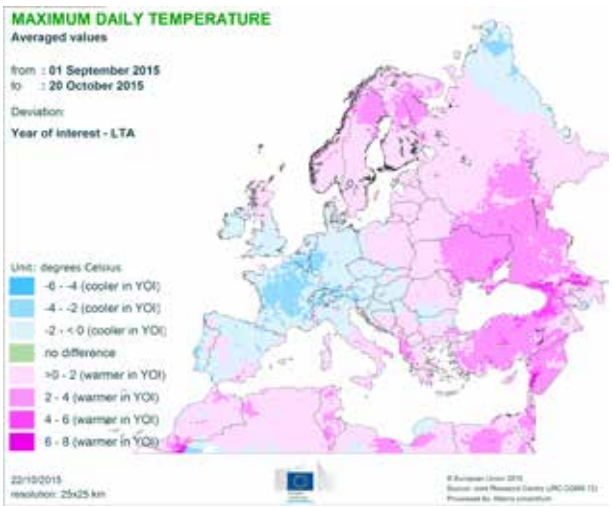




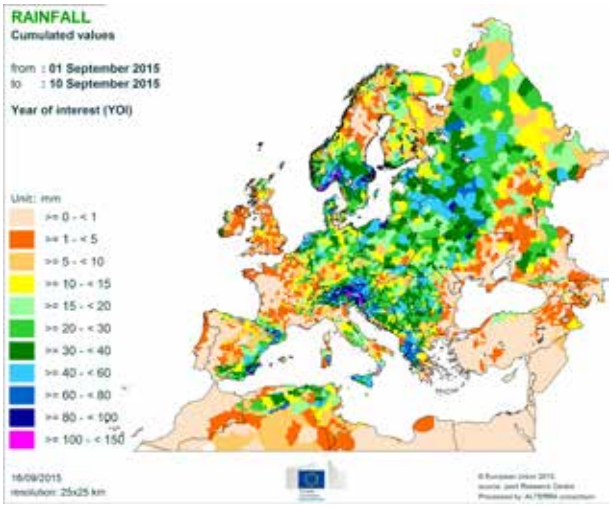

TEMPERATURE SUM
from : 11 October 2015
to : 20 October 2015
Deviation:
Year of interest - LTA
Base temperature: 0
Unit: degree days (Celsius)
< -40
>= -40 - < -30
>= -30 - < -20
>= -20 - < -10
>= -10 - < -5
>= -5 - < 5
>= 5 - < 10
>= 10 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40
22/10/2015
resolution: 25x25 km

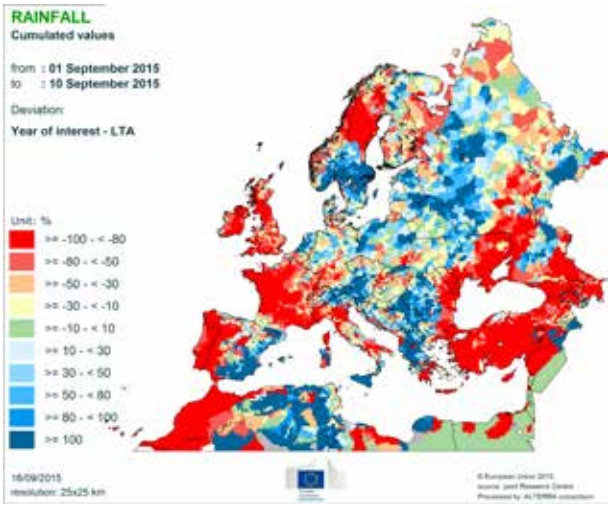

NUMBER OF HOT DAYS
from : 01 September 2015
to : 20 October 2015
Deviation:
Year of interest - LTA
Maximum temperature (° C) >= 30
Unit: days
=< -15
> -15 - <= -10
> -10 - <= -5
> -5 - <= -2
> -2 - <= 0
no difference
> 0 - <= 2
> 2 - <= 5
> 5 - <= 10
> 10 - <= 15
> 15
22/10/2015
resolution: 25x25 km

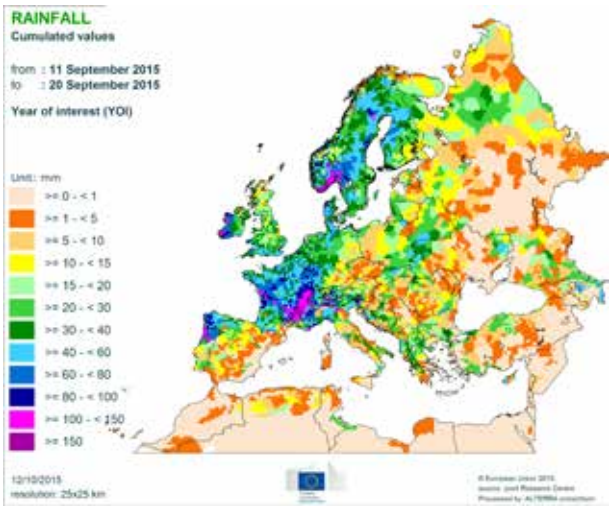

MAXIMUM DAILY TEMPERATURE
Highest values
from : 01 September 2015
to : 20 October 2015
Year of interest (YOI)
Unit: degrees Celsius
<= 25
> 25 - <= 28
> 28 - <= 29
> 29 - <= 30
> 30 - <= 31
> 31 - <= 32
> 32 - <= 33
> 33 - <= 34
> 34 - <= 35
> 35 - <= 36
> 36 - <= 37
> 37 - <= 38
> 38
22/10/2015
resolution: 25x25 km

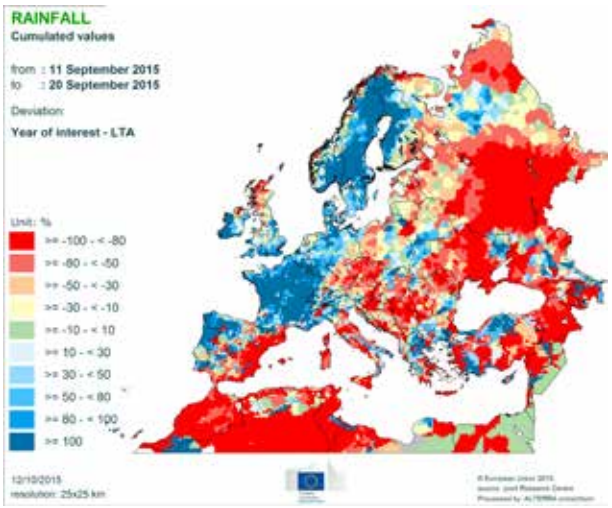

MAXIMUM DAILY TEMPERATURE
Averaged values
from : 01 September 2015
to : 20 October 2015
Deviation:
Year of interest - LTA
Unit: degrees Celsius
-6 - -4 (cooler in YOI)
-4 - -2 (cooler in YOI)
-2 - < 0 (cooler in YOI)
no difference
>0 - 2 (warmer in YOI)
2 - 4 (warmer in YOI)
4 - 6 (warmer in YOI)
6 - 8 (warmer in YOI)
22/10/2015
resolution: 25x25 km

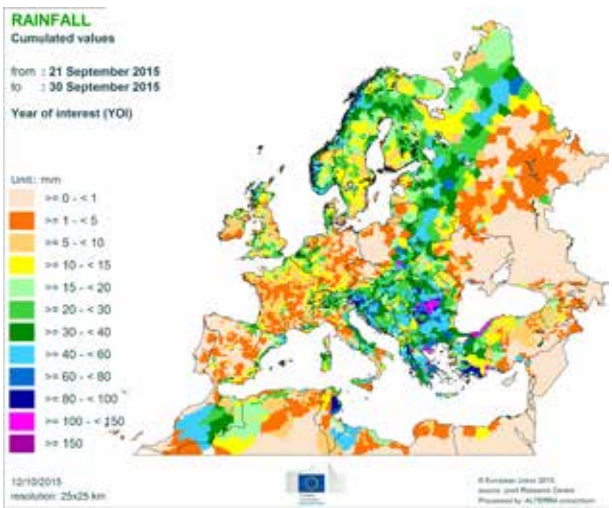
Precipitation

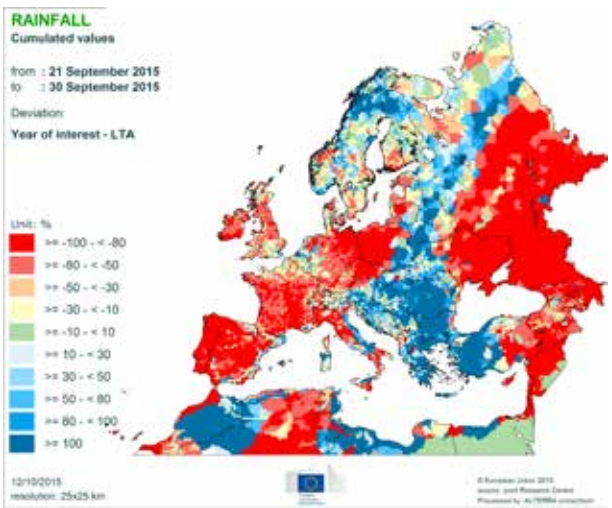


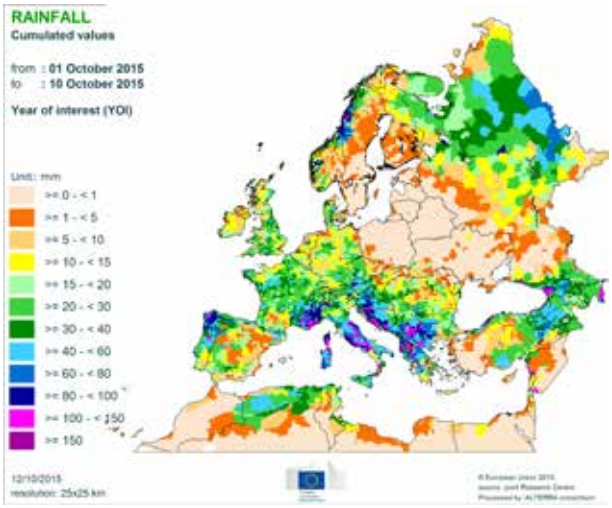


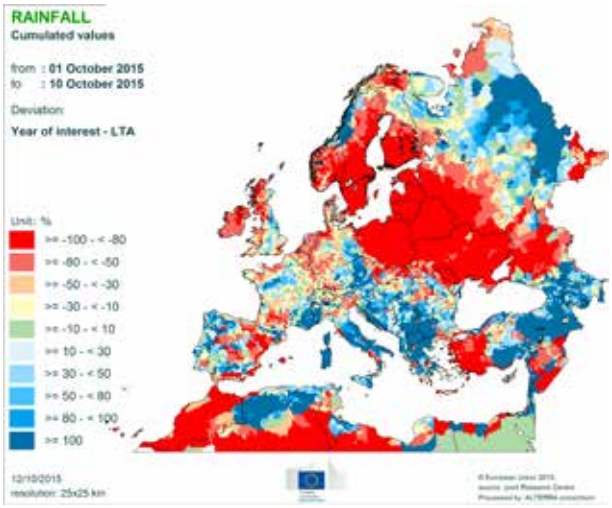


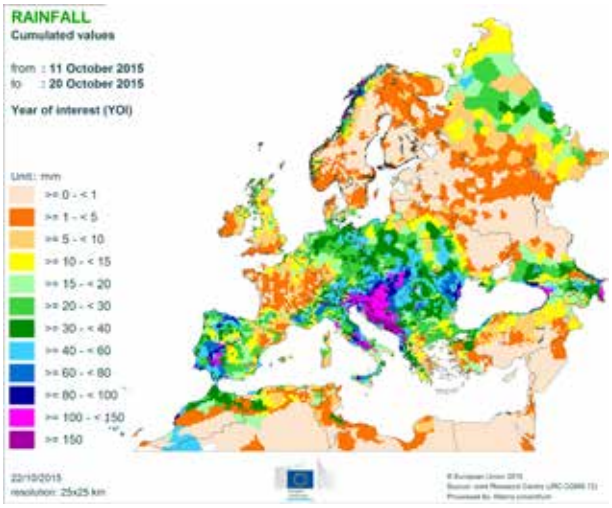


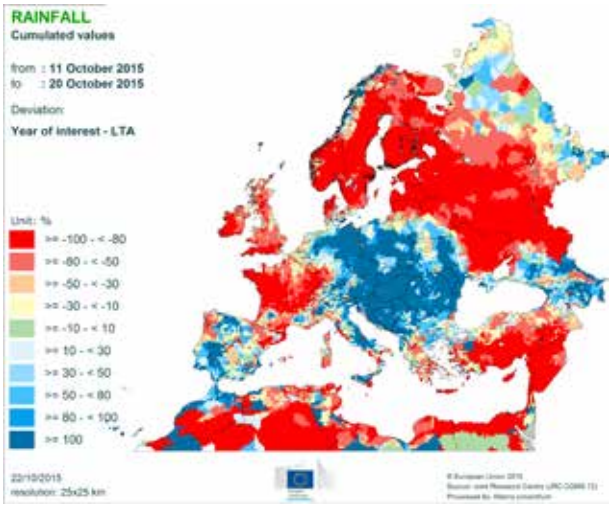




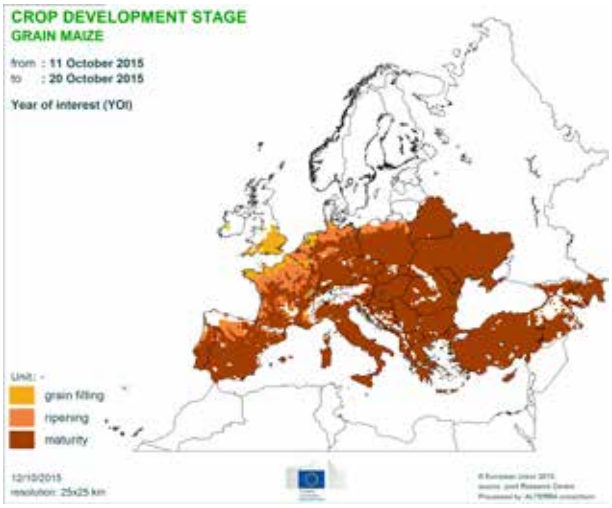

RAINFALL
Cumulated values
from : 01 October 2015
to : 10 October 2015
Year of interest (YOI)
Unit: mm
>= 0 - < 1
>= 1 - < 5
>= 5 - < 10
>= 10 - < 15
>= 15 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40 - < 60
>= 60 - < 80
>= 80 - < 100
>= 100 - < 150
>= 150
12/10/2015
resolution: 25x25 km

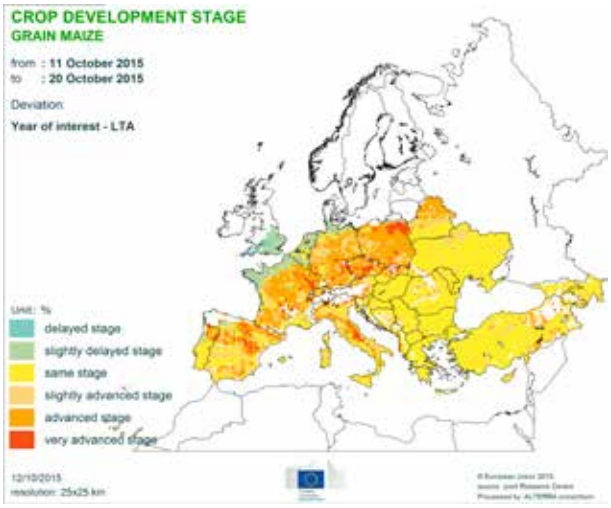

RAINFALL
Cumulated values
from : 01 October 2015
to : 10 October 2015
Deviation:
Year of interest - LTA
Unit: %
>= -100 - < -80
>= -80 - < -50
>= -50 - < -30
>= -30 - < -10
>= -10 - < 10
>= 10 - < 30
>= 30 - < 50
>= 50 - < 80
>= 80 - < 100
>= 100
12/10/2015
resolution: 25x25 km

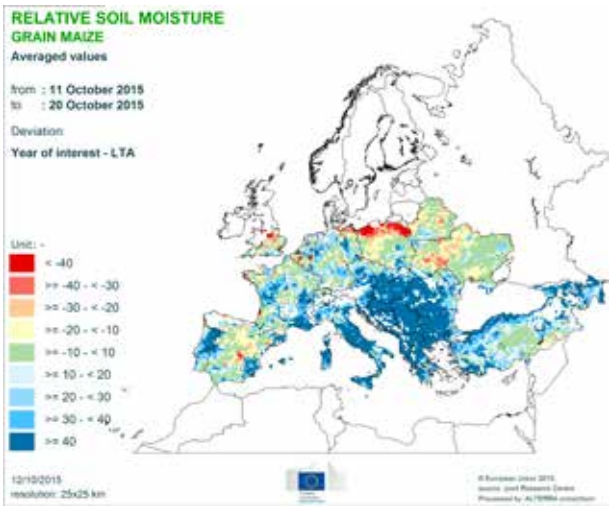

RAINFALL
Cumulated values
from : 11 October 2015
to : 20 October 2015
Year of interest (YOI)
Unit: mm
>= 0 - < 1
>= 1 - < 5
>= 5 - < 10
>= 10 - < 15
>= 15 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40 - < 60
>= 60 - < 80
>= 80 - < 100
>= 100 - < 150
>= 150
22/10/2015
resolution: 25x25 km

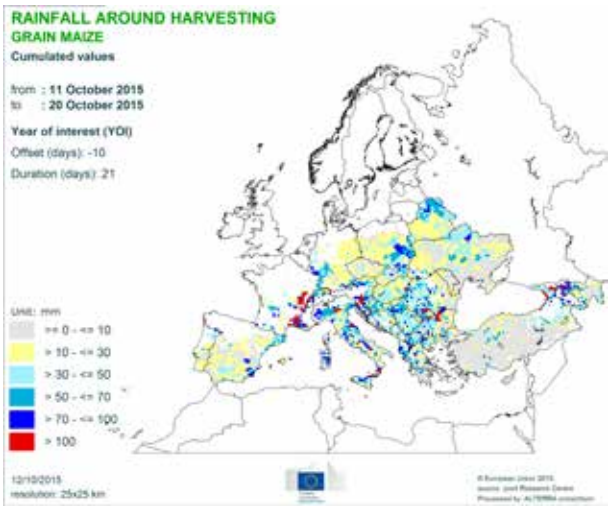

RAINFALL
Cumulated values
from : 11 October 2015
to : 20 October 2015
Deviation:
Year of interest - LTA
Unit: %
>= -100 - < -80
>= -80 - < -50
>= -50 - < -30
>= -30 - < -10
>= -10 - < 10
>= 10 - < 30
>= 30 - < 50
>= 50 - < 80
>= 80 - < 100
>= 100
22/10/2015
resolution: 25x25 km

Maize crop


CROP DEVELOPMENT STAGE
GRAIN MAIZE
from : 11 October 2015
to : 20 October 2015
Year of interest (YOI)
Unit: -
grain filling
ripening
maturity
12/10/2015
resolution: 25x25 km


CROP DEVELOPMENT STAGE
GRAIN MAIZE
from : 11 October 2015
to : 20 October 2015
Deviation
Year of interest - LTA
Unit: %
delayed stage
slightly delayed stage
same stage
slightly advanced stage
advanced stage
very advanced stage
12/10/2015
resolution: 25x25 km


RELATIVE SOIL MOISTURE
GRAIN MAIZE
Averaged values
from : 11 October 2015
to : 20 October 2015
Deviation
Year of interest - LTA
Unit: -
< -40
>= -40 - < -30
>= -30 - < -20
>= -20 - < -10
>= -10 - < 10
>= 10 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40
12/10/2015
resolution: 25x25 km


RAINFALL AROUND HARVESTING
GRAIN MAIZE
Cumulated values
from : 11 October 2015
to : 20 October 2015
Year of interest (YOI)
Offset (days): -10
Duration (days): 21
Unit: mm
>= 0 - <= 10
> 10 - <= 30
> 30 - <= 50
> 50 - <= 70
> 70 - <= 100
> 100
12/10/2015
resolution: 25x25 km

LB-AM-15-010-EN-N

MARS Bulletins 2015

Date	Publication	Reference
26 Jan	Agromet analysis	Vol. 23 No 1
23 Feb	Agromet analysis	Vol. 23 No 2
23 Mar	Agromet analysis and yield forecast	Vol. 23 No 3
27 Apr	Agromet analysis, remote sensing and yield forecast	Vol. 23 No 4
26 May	Agromet analysis, remote sensing, yield forecast and pasture analysis	Vol. 23 No 5
22 Jun	Agromet analysis, remote sensing, yield forecast, pasture update and rice analysis	Vol. 23 No 6
27 Jul	Agromet analysis, remote sensing and yield forecast	Vol. 23 No 7
24 Aug	Agromet analysis, remote sensing and yield forecast	Vol. 23 No 8
21 Sep	Agromet analysis, remote sensing, yield forecast and pasture update	Vol. 23 No 9
26 Oct	Agromet analysis, remote sensing, yield forecast and rice analysis	Vol. 23 No 10
23 Nov	Agromet analysis, yield forecast and sowing conditions	Vol. 23 No 11
14 Dec	Agromet analysis	Vol. 23 No 12

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Analysis and reports
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*MARS stands for Monitoring Agricultural Resources

Technical note:
The long-term average (LTA) used within this bulletin as a reference is based on an archive of data covering 1975-2014.

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